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MONTHLY REPORT

OF THE

DEPARTMENT OF AGRICULTURE

FOR

MARCH AND APRIL, 1876.

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MONTHLY REPORT.

DEPARTMENT OF AGRICULTURE,
STATISTICAL DIVISION,
Washington, April 18, 1876.

SIR: I submit herewith, for publication, a report of the condition of winter grain, and one upon the condition of farm animals at the opening of spring, and the diseases of animals during the past year; together with a paper on forestry, by the Commissioner, and various statistical facts and market records.

J. R. DODGE,
Statistician.

HON. FRED'K WATTS,
Commissioner.

DIGEST OF APRIL RETURNS.

WINTER-WHEAT PROSPECTS.

In the more northern States, the autumn prospects of the crop have been, to some extent, blighted by freezing out, and otherwise winter-killing, owing to extraordinary absence of snow, accompanied by frequent alternations of freezing and thawing, in the earlier part of the winter; but in the latter days of March it was too early to ascertain the extent of the injury. In New York, Seneca, Livingston, Oneida, Washington, and Schuyler specify such injuries, while thirteen counties report a condition ranging from average to very promising, and others do not indicate the condition beyond the favorable fact that it was well covered with snow. Among the heavy winter-wheat counties, in which the condition is promising, are Niagara, Ontario, Erie, Onondaga, and Yates.

From Pennsylvania about two-thirds of the returns report more or less injury from winter-killing. The injury, of course, is greatest on clayey soils and others not well drained. The drilled grain stood the exposure better than that sown broadcast. In Indiana County, while the early sown stands well, the late sown does not promise half a crop; in Sullivan the condition is good on new ground, but 25 per cent. below average on old; in Adams, a heavy wheat county, many fields are almost ruined by alternate freezings and thawings; Washington, good on dry ground, but badly frozen out on wet; in Lancaster, producing over 2,000,000 bushels, or more than one-tenth of the crop of the State, the condition is good; in Fulton, better than for years. Among other counties producing large crops, which report from

average upward, are Lehigh, Delaware, Mercer, Juniata, Bedford, Northampton, and Dauphin. The winter-wheat States farther west, in the same range, have suffered in an equal, if not greater, degree, from the same causes. Among the more important counties in Ohio reporting excessive injury are Licking, 77 per cent. below average; Fayette, 50 per cent. below on clay land, and 10 below on black land; Clinton, 50 per cent. below; Crawford, nearly all killed in March; Champaign, more than 50 per cent. killed; Greene, 40 per cent. below; Clark, "not half a crop expected; many fields will be plowed up;" Pickaway, badly killed. Montgomery reports good condition on well-drained land, but nearly destroyed on undrained clayey soil; Wayne and Erie, good on upland, but badly killed on low clayey land; Huron and Noble, early sown, good. Hocking reports good condition; Tuscarawas, very good; Harrison, much above average; Miami, 20 per cent. above; Belmont, 40 per cent. above last year.

Half the returns from Indiana specify injuries from winter-killing, varying from an indefinite degree to 50 per cent. destroyed. Among these, Clinton, Stark, Martin, and Johnson place the condition 25 per cent. below average; Wabash and Madison, 37; Tipton, 40; Clay and Union, 50. In Huntington, while the drilled grain is 20 below, the broadcast is 60. In Steuben the condition of the early-sown is good, but of the late-sown bad; in Tippecanoe it is good on highly-cultivated land, but on other land "many fields are entirely killed." The condition was never better in Lawrence, is very fine in Floyd, and much above average in Posey.

In Illinois the reported injury is considerably less, something over two-thirds of the returns reporting a condition average or above. But from some of the heaviest counties the returns are quite unfavorable. Saint Clair reports that the condition is very bad; "it is safe to say that one-third is already lost;" in Randolph "winter-wheat looks no way encouraging;" in Montgomery "the crop looks anything but promising;" in Clinton 38 per cent. winter-killed, and in Vermillion only half a crop was sown, and that promises but 50 per cent. in yield. In Pike "it has not been winter-killed a particle," but owing to the fact that the autumn was very dry, and much of it sown very late, the condition is placed 20 per cent. below average. It is bad in Jackson for the same reason. On the other hand, in Jersey the condition is better than for years; fine in Macoupin and Sangamon, and in Monroe much better than anticipated in the fall and early winter. Among counties producing less quantities, Hardin, Pulaski, and Tazewell return the condition as splendid; Saline better than ever before; Menard, 120; Cook, 150.

Wisconsin and Iowa sow but little winter-wheat, and that has been very generally injured by winter-killing.

Michigan, having had more snow, reports a more favorable condition. Less than one-third of the returns are below average; over half, average or above; the others being uncertain, owing to the covering of snow. In Washtenaw the crop has done well, considering the open winter, and is improving; in Saint Joseph it is very bright and healthy; in Calhoun good, but in Oakland 10 per cent. below average.

In the remaining portion of the country the condition is favorable almost beyond precedent. The effects of extraordinary snow and cold, in the last half of March, in the South, where grain was unusually forward and tender, and of a severe drought in the Southwest, during the autumn, are almost the only drawbacks. Out of sixteen counties reporting on winter-wheat in Maryland, Howard alone returns a condition below average. Among fifty-six returns of winter-wheat from Virginia,

Craig and Caroline report that the condition is bad or below average; Warwick, that the crop is suffering from insects; Washington and Westmoreland, that it is backward; all others, unqualified good condition, and a large portion of extraordinary promise. Among the forty-five returns from North Carolina, Randolph reports 10 per cent. below average; Ashe, thin and weakly; Mitchell, badly killed; Surry, below average; Polk, yellow and frost-bitten; and Madison, much injured—all owing to snow and freezing between the 18th and 20th of March. In Stokes, the unusually forward crop was much injured by the same cause. All the other returns range between average and never better. The only exception to returns of good condition in South Carolina is Spartanburgh, in which the crop is "sorry." In Georgia, Decatur reports that the little planted is a failure; Stewart, Randolph, Wilkes, and Carroll, that the crop was injured by the snow and freeze in March; Terrell, that while the condition is good there is some complaint of insects. The other forty-seven counties report a good condition, without drawback, and many of them the best for years, or never better. Among the latter are Towns, Jefferson, Heard, Franklin, Cobb, Hall, Lincoln, Taliaferro, Taylor, Harris, Walker, and Lumpkin. The only return for winter-wheat in Florida is from Madison, in which the condition is better than ever before.

A majority of the returns from Alabama report the condition as of extraordinary promise, while only one (Franklin) reports below average. In Shelby, though the condition is the best for years, rust is reported in spots.

In Mississippi, the crop is unpromising in De Soto, and in Chickasaw, was made yellow and sickly by the snow and cold in March. All other returns are very favorable; Tishomingo and Newton 25, and Neshoba 15 per cent. above average; La Fayette and Lee, very promising; all others above average.

In Texas the only exceptions to returns altogether favorable are Gillespie, injured by grasshoppers and late frosts; Anderson, late planted, first rate, but early-planted injured by the mild, wet winter; and Gonzales, more or less rust. Bosque and Ellis report the best condition ever known, and Dallas, Collin, and Williamson, never better.

From Arkansas, Lawrence and Stone are the only returns below average.

In Tennessee, while many counties report the best condition for years, or never better, none are reported below average. The same is true in West Virginia, except that in three or four counties the previous good prospect was considerably injured by the severe freeze in March. The crop suffered from the same cause to a somewhat greater extent in Kentucky, but yet the general condition for the State was left much above average. Across the Mississippi, in Missouri and Kansas, a severe drought in autumn conspired with the freeze in March to materially reduce the condition in several counties; yet, out of fifty-five returns from Missouri, only seven fall below average; and only four out of thirty-five from Kansas. Not less than ten or twelve counties in the latter State report a condition never exceeded; in Barton, while, owing to the autumn drought, the general condition is 30 per cent. below average, the drilled is 50 per cent. better than the broad-cast. Other returns also note the superior condition of the drilled.

The returns from California are uniformly favorable, and a majority report that the condition is first rate. The same is true of Oregon.

RYE.

Winter-rye corresponds in condition very nearly with wheat, except that being more hardy it has suffered less from the open winter. All reports from New England are favorable, except that the crop has suffered some from winter killing in Hillsborough, New Hampshire, and is under average in Windham, Connecticut. In Berkshire, Massachusetts, a large amount was sown, and it promises a large yield. In Kent, Rhode Island, the condition is the best for five years.

Washington, badly winter-killed, is the only county in New York reporting below average. Mercer, New Jersey, is 25 per cent. below; all other returns, average or above.

From Pennsylvania, which produces nearly one-fourth of the rye grown in the country, a fuller abstract of returns is given:

Westmoreland: Much "heaved out" by freezings and thawings. *Bucks:* 100. *Lehigh:* Good. *Lebanon:* 75—frozen out. *Northumberland:* Good on high ground; on low, frozen out. *Sullivan:* On new ground, good; on old, 50. *Mercer:* Above 100. *Juniata:* 100. *Indiana:* Early sown stands well, but the late sown does not promise half a crop; heaved out. *Elk:* Much above 100. *Columbia:* Much killed out; no snow. *Bradford:* 75. *Bedford:* Very good. *Wayne:* Much winter-killed. *Perry:* Injured by open winter. *Cumberland:* 100. *Clearfield:* Much killed out. *Adams:* Many fields almost ruined by alternate freezings and thawings. *Tioga:* Full 100. *Monroe:* Good. *Wyoming:* Good. *Northampton:* Above 100. *Clinton:* Injured by freezing and thawing. *Cambria:* Many fields will be plowed up. *Lawrence:* 100. *Lancaster:* Good. *Fulton:* 100. *Forest:* Under snow. *Dauphin:* 100. *Armstrong:* 100. *Pike:* Not promising, owing to want of snow, freezing, thawing, &c.

All returns from Maryland report good condition except Howard, 85. In Virginia, Caroline alone returns below average, while 36 counties return conditions ranging from average to the best ever known. There are but two exceptions to good condition in the returns from North Carolina, and one of them ascribed to the recent freeze. In the other Southern States, producing small quantities of rye, the condition is very generally promising.

From Tennessee, Grundy returns the condition as somewhat sickly, but all others are up to average, and a large portion much above. In West Virginia also the returns are uniformly favorable, except that considerable injury to the crop in several counties is ascribed to the freeze in March. Among full returns from Kentucky, the epithets "splendid," "best for years," and "never better," &c., are frequent. Kenton, thin on the ground; Pendleton, 25 per cent. below average, and Johnson, injured by the freeze in March. In Ohio, the injury from winter-killing is extensive, though not as great as in the wheat-crop. About half the returns report good condition, and many of the others partly good; the crop escaping injury on high or sandy land, and on well-drained, well-tilled lowland. Returns from Michigan all report good condition. The condition in Indiana corresponds with that in Ohio. In Illinois, as in the case of wheat, the injury from the open winter is much less, and the general condition is considerably above average.

But few returns of the condition of rye have been received from Wisconsin. Calumet reports the crop nearly all killed; Washington, badly killed; Adams, injured 30 to 50 per cent.; Rock, never better; others, average or good. About three-fourths of the returns from Iowa report good condition, the other fourth being more or less injured by winter-killing. From Missouri, the returns are still more favorable, more than four-fifths being average or above. In Kansas and Nebraska the promise is extraordinary, and from the Pacific slope the returns are favorable without exception.

CONDITION OF FARM-ANIMALS.

As a general rule cattle and sheep went into winter-quarters in good condition. Up to the 1st of March, in all sections of the country east of the Rocky Mountains, the winter was extraordinary for its mildness, diminished area and quantity of snow, and comparative freedom from hard storms. One consequence was, unusual exemption from diseases affecting farm-stock; another, a greatly diminished demand for stored feed. Owing to this latter, together with generous hay and corn crops, the localities have been very few and limited in extent in which suffering and emaciation from hunger could not be prevented by anything like reasonable precaution and care. In those sections which make no provisions for sheltering, and little or none for feeding stock in winter, the mildness of the weather and their consequent success in sufficiently providing for their own wants and comfort, resulted in conditions of health and vigor, which enabled them for the most part to withstand, without great loss or depreciation, the extraordinary cold and storms of March, which, east of the Pacific slope, was much harder on stock than either of the previous months. Hence unusually full county returns approach unanimity in reporting the condition of cattle and sheep throughout the country on the 1st of April as one of unprecedented health and thrift.

CATTLE.

The condition ranges from good up to remarkably good, best for years, &c., in all returns from New England except Franklin, Vermont, in which, though some stocks are looking remarkably well, yet the general condition is thought to be not quite average, owing to the unusually early season at which cattle came to the barn.

In full returns from the Middle States and Maryland the general range from good to never better, is but slightly qualified in seven counties. From New York, Niagara reports that the winter has been too warm to stimulate a vigorous appetite, and Livingston that poor shelter and changeable weather have brought the condition somewhat below average. In Lancaster and Pike, Pennsylvania, and in New Castle, Delaware, cattle are somewhat poor, owing to scarcity of feed.

Returns are equally favorable from the South Atlantic and Gulf States. Out of over sixty from Virginia, the only decidely unfavorable one is from Scott, which reports that owing to the prevalence of "murrain and hollow-horn," many cattle have died and the survivors are very poor. They are reported as poor in Patrick and in Lunenburgh, for want of care and feed. Healthy but poor in Clarke, owing to scarcity of long feed, and rough weather in March; very lean in Franklin; very thin in Northampton, owing to neglect; very poor in Greenville, that being the usual or average condition. On the other hand, the condition is much above average in Page, for the reason that farmers are learning the wisdom of properly feeding and sheltering stock in inclement weather. The condition is the best for many years in Craig, Middlesex, Southampton, King and Queen, and better than ever before in Spottsylvania and Mecklenburgh. In a large portion of the other returns the range is between very good and never better. Over four-fifths of the returns from North Carolina indicate a condition above, and a large portion much above, average, while three or four refer to cattle as thin, or looking rough, or bad, without assigning the cause, and only two report a bad condition from want of food and care. In South Car-

olina, Greenville reports cattle thin but healthy, and Clarendon very poor, owing to scarcity of feed; all other returns are favorable. In Georgia, out of between seventy and eighty returns, only five indicate an unfavorable condition, and that chiefly owing to the snowy and freezing weather in March. Jefferson alone returns a bad condition owing to a scarcity of feed. Effingham, Hull, Pierce, Montgomery, Mitchell, Baker, Coffee, Taylor, and McDuffie, report the best condition for many years. Dooly, Cobb, Dodge, Worth, and Walker, the best ever known. In Colquitt many of the cattle are fat enough for good beef. All returns from Florida show a condition much above average, and all from Alabama, except Perry and Franklin, in which it was much above until the 1st of March, and Etowah, in which, owing to scarce feed and the cold spring, cattle are poor. From Mississippi, all returns are favorable except Tunica, thin; De Soto, very poor; and Lee, bad, owing to the long winter. The favorable returns range from good, thrifty, never better, up to good beef. In Louisiana, Cameron alone returns a bad condition, owing to a too wet winter; while in Morehouse and Franklin the condition is the best for many years, and in Madison cattle are very fat.

In Texas, among fifty-seven returns, Cooke reports cattle as not in very good condition, and Blanco as very thin; all others indicate a good condition, and most of them one of extraordinary thrift. The winter was so mild and free from hard storms, that the grass on the range has continued to grow, leaving stock nothing to do but to eat and grow fat. In the following counties the condition reported ranges from the best for many years to better than ever before: Aransas, Bosque, Coryell, Dallas, Goliad, Matagorda, Falls, Collin, Hunt, Fannin, Hardin, Harrison, Kendall, Colorado, Williamson, Titus. Cattle are described as being fat enough for good beef in Henderson, Red River, McLennan, Hardin, Fannin, Williamson, Burleson, Waller, and Hays. Much above average, fine, excellent, flattering, splendid, &c., are descriptive epithets which abound in other returns.

In the interior Southern States the general condition is also remarkably good. The only exceptions reported are in Dorsey, Arkansas, "very bad;" Izard, below average, and Saint Francis, poor, owing to neglect; in Sullivan, Tennessee, "thin but healthy;" Pleasants, West Virginia, bad, owing to rain, sleet, and mud; and Nicholas, poor, owing to a short hay-crop; Daviess, Kentucky, rather poor, owing to the injury of crops by the great floods last summer; Mason, very low in flesh; Spencer, 10 per cent. below average; Scott, healthy but poor, owing to wet weather; Kenton, thin but healthy; and Lincoln, good but suffered from the severe weather in March.

In the States bordering the Ohio River on the north, rains in large measure took the place of snow in ordinary winters. As a consequence unsheltered stock suffered more than usual from exposure, and still worse from the mixing of feed with the cold mud in which they stood. Great injury to the hay-crop in these States by the unprecedented rains during the hay-season, operated as a further drawback upon the condition of stock. But notwithstanding, on the 1st of April the general condition was much above average. In between fifty and sixty returns from Ohio, not more than seven imply an average condition below fair or good, while a large portion range from very good to never better. In Indiana the general average is not quite so favorable, ten returns out of forty-eight describing the condition as something less than good. In Illinois, Edwards report a condition below average, "and in the flooded districts many have died;" White, 40 per cent. below, and "5 per cent. have

died for the want of food, and the end is not yet;" Richland, very poor, owing to wet and changeable weather. Two or three other returns imply a condition not quite up to average, while over fifty are favorable, many ranging between never better and better than ever.

From the Lake States, Michigan, Wisconsin, and Minnesota, there is not a single return in which the general good condition is qualified by a depreciative epithet, while that from Oakland, Michigan, "the best ever known—thriving all winter," has many equivalents. Returns are equally favorable from Missouri, Kansas, and Nebraska, except that in Missouri, Mississippi County reports cattle rather poor owing to the want of shelter and care; Lincoln, rather poor, owing to wet weather; and Nuckolls, Nebraska, not good, owing to the hard spring. In Iowa cattle have suffered from the same causes and in about the same degree as in Illinois, Indiana, and Ohio.

On the Pacific slope the rainy season was unusually long, but the winter was not otherwise severe. The weather being favorable to pasturage and comparatively free from hard storms, the general condition of cattle in California and Oregon is excellent. In California but three exceptions are reported. Cattle are reported as poor in San Bernardino; below average in San Joaquin, owing to the long wet winter and high price of feed; and in Trinity, while most of the cattle were driven down into the valley counties to be wintered, many among those left there have died, and the survivors are poor. In that locality the winter, though mild, was unusually stormy. Lane, Oregon, reports cattle poor, with some loss; but all other returns are favorable. In Umatilla cattle from the pastures are good beef.

Returns from Utah report the average condition of stock considerably lower than in any other section, owing to a long winter, deep snows, and a very severe March. In Beaver it is estimated that not less than 20 per cent. have died. Among seven returns from Colorado, Weld reports that cattle are 10 per cent. below average, owing to the fact that late rains kept grass green until killed by frost; and Conejos, that they are poor; the other five are favorable, El Paso reporting the condition equal to stall-fed beef.

SHEEP.

Throughout the country, sheep have not suffered from any other than the chronic diseases which are perpetuated in flocks from year to year, while the general conditions of weather and food-supply have been such as to contract and assuage, rather than extend and aggravate these. And since they usually share the lot of cattle in respect to exigencies of climate, feed, shelter, and care, in the different sections, they very nearly correspond with them in condition. Returns indicate an unusually large percentage of lambs saved. Several returns, particularly from Missouri, concur in ascribing a bad shedding of wool to feeding too freely with corn.

The only exceptions, of any consequence, to unqualified good condition, reported throughout the entire country, are the following: Vermont, Caledonia, below average, owing to wet weather. Pennsylvania, Sullivan, 20 per cent. below average; Washington, the winter too warm and wet for sheep; Dauphin, though healthy, below average. Maryland, Frederick, 5 per cent. below par, being permitted to run out in old fields. Virginia, Lancaster, look bad, owing to too much rain in March; Scott, very poor, with many deaths. North Carolina, Lincoln, looking bad; Buncombe, Henderson, and Stokes, thin. South Carolina, Clar-

endon, very poor, owing to scarce feed; Greenville, thin, but healthy. Georgia, Franklin, bad; Towns, Carroll, Taylor, and Wilkes, all good up to March, but much depreciated by extraordinary snow and cold in that month. Louisiana, Cameron, bad, owing to too wet weather. Texas, Palo Pinto, poor. Arkansas, Izard, below average. Tennessee, Johnson, 5 per cent. below. Kentucky, below average in Spencer, Boyd, Harrison, and Jessamine, owing to wet weather; in Grayson, except the sheltered, have not done well for the same cause. Ohio, owing to wet weather, mud, and damaged hay, thin, poor, or below average in Montgomery, Pickaway, Hudson, Belmont, Putnam, Marion, Washington, Ottawa, Licking, and Fayette. Clarke reports that the past winter was the hardest on sheep for many years; "flocks are thin and many will die;" Preble, that sheep are in fine condition where well sheltered and fed, "but haggard where left to shift for themselves." Michigan, Oakland, the housed in fine condition; but those left to roam in fields, very thin. Indiana, Clay, 10 per cent. below average; Vanderburgh, 5 per cent. below; Lawrence, rather bad, owing to bad condition when they went into winter-quarters; Knox, poor, and Orange, Wells, Hamilton, and Marion, below average, owing to excessive wet weather. Illinois, in Clay, flocks well cared for are in good condition, while others are poor and unhealthy; in Shelby the smaller flocks are above average; the larger below; in Edwards, "the worst condition ever seen, many flocks dying off and losing all the lambs, from continuous wet weather;" owing to the same cause, the condition is not quite average in Warren. In Des Moines, Iowa, sheep have not done well, owing to rain, snow, and mud; in Decatur, poor; in Lincoln, rather poor. In Butler, Kansas, sheep are fat, "except scabby flocks, which are poor and dying." In Furnas, Nebraska, all are in good condition, except the scabby. In San Joaquin, California, many sheep have been destroyed by sudden floods, and many sheep and lambs by severe storms; in Trinity they are poor; in Merced, the young are in good condition, but the old poor and scabby; in Contra Costa, the losses of sheep by starvation, and of lambs by protracted storms, are considerable; in San Bernardino, they are reported "terribly starved." In Utah, Salt Lake and Tooele report sheep poor. In Colorado, Weld, 10 per cent. below average, owing to late rains.

Thus, with unusually full returns, there is but one slight exception to reports of condition ranging from average upward to better than ever before, in New England; one in the Middle States; none in the Lake States; but one in the Gulf States; one in Arkansas; scarcely one in Kansas and Nebraska; none in Missouri and West Virginia, and very few in other States.

DISEASES OF FARM-ANIMALS.

Our April returns show that horses in all sections of the country have been afflicted with a modified form of the epizootic influenza, and that in the South and West swine have suffered from epizootic maladies to an extent which doubtless contributed largely to shorten the pork-crop of 1875. Cattle and sheep have, to a much smaller extent than usual, shown prevailing tendencies to disease. The mild winter, just closed, was more favorable to the outdoor wintering of stock, but even with this advantage our returns show serious losses in some counties from exposure and lack of food. In New England, where, from the necessity of circumstances, all branches of production are pursued with

strict reference to profit, no cases are reported of prevailing diseases, except such as depend upon general or climatic influences which no care can anticipate, as, for example, the epizootic influenza of horses. As our correspondent in Piscataquis, Me., judiciously observes, the farmers of that region have learned that to get the most profit out of stock, the animals must be kept in a thrifty condition. The natural difficulties in the way of the stock-raiser in New England, the long winters and the long and expensive feeding-seasons, are probably greater than in any other section. Yet here true economy has shown the economic value of care, shelter, and abundant food. In milder climates and on more productive soils, to the westward and southward, local diseases have prevailed and stock-farmers have been subjected to losses simply from lack of attention to these brute dependents. Our correspondence contains abundant evidence of the fact that disease has frequently been engendered, and in other cases fostered, by the foul condition of hog-pens and stables, and by the imperfect nutrition of animals turned out to face the storms of winter without shelter and with such scanty supplies of food as they were able to pick up in the field, forest, or public highway. Yet there are indications of improvement in this respect in sections of the country where the cruel and uneconomical methods of stock-keeping have been most prevalent.

The protection of farm-animals, especially sheep, from the ravages of dogs is a policy which has gained ground in those States where the nuisance has been most severely felt. Arkansas and Tennessee have both passed laws imposing taxes upon dogs, and providing for the destruction of those not registered. A bill of this character passed the Georgia house of representatives, but failed in the senate. Another step in the right direction will secure the stringent enforcement of these laws, and sheep-raisers in those sections begin to be hopeful of a profitable enterprise. Yet this necessary reform is still encountered by strong prejudices and by a low class of corrupt interests. One of our correspondents in a Southern State reports a conversation with a member of the State senate in which the senator acknowledged both the justice and necessity of the restrictive policy, but at the same time expressed the opinion that no politician could stand up before the storm of indignation which his vote in favor of a dog-law would produce. This shows that the reform must gain headway among the people before statesmen, even with the most enlightened views, will dare to inaugurate such legislation. Meanwhile the sheep and wool-producing interest is patiently suffering grievous losses. Pathetic complaints reach us of the destruction of valuable flocks in a single night by the onslaught of the curs. In many counties the nuisance amounts to a positive prohibition of sheep and wool raising. In the South, since the war, the evil has been greatly aggravated by the habit of keeping numerous dogs by freedmen. These animals, not being provided with food by their owners, are expected to provide for themselves, and unfortunately have recourse to the sheep-folds of the farmers. It is greatly to be regretted that this new class of citizens see proper to inaugurate their citizenship by a custom at war with the best interests of society; but the remedy will be found in bringing them to feel an intelligent interest in this matter by becoming sheep-raisers themselves. But the evil is by no means confined to this class. In the Middle States, and in some of their oldest counties, this nuisance is bitterly complained of. One correspondent in New York estimates that in his county there are twenty-five dogs to one sheep, and consequently sheep raising is practicable only within narrow limits. In the West, also, losses are very heavy in some counties, and public

sentiment is not yet sufficiently advanced to sustain a stringent and effective law against dogs. Yet the pressure of necessity must ultimately bring the public mind to recognize the necessity of such legislation. There is no doubt that it would result in a very great advantage both to agricultural and public interests.

DISEASES OF HORSES.

The epizootic influenza, which prevailed in the fall and winter of 1872–'73, re-appeared in the autumn of 1875 in nearly all the States; the symptoms, however, were mild, and the disease readily yielded to ordinary treatment. The mortality was also much less formidable than during the former visitation. In parts of the country where farm-horses are worked hard all winter, as in the lumbering districts, the disease left some permanent injuries in the form of heaves and other abnormal conditions. In some cases the symptoms were so like the common distemper as to be mistaken for it. Reports of this disease are so general and of such a stereotyped character, that it is not necessary to particularize. Of other diseases, New York reports in Suffolk County a paralysis of hind-quarters and inability to stand, followed by death in a few days. A similar affection is noted in Green, Wisconsin. In Washington, New York, a few cases of pneumonia occurred; the same report comes from Lawrence, Pennsylvania. The blind-staggers destroyed 200 horses in Cumberland, New Jersey, and 130 in Kent County, Delaware. It is reported also in Richland, South Carolina; in Santa Rosa, Florida; in Greene, Le Flore, and Choctaw, Mississippi; in Claiborne and Bossier, Louisiana; in Red River, Fannin, Wood, Cook, and Grayson, Texas; in Columbia, Lafayette, and Dorsey, Arkansas; in Callaway, Kentucky; in Cowley, Kansas. The farcy was prevalent in some parts of Colleton, South Carolina; most of the cases were fatal. Louisiana reports a few cases of charbon in Concordia and East Feliciana. Buffalo gnats were troublesome at two or three points in the Gulf States. Several counties report new diseases, but not of marked intensity or extent. In Lowndes, Mississippi, an affection of this character was somewhat serious. The symptoms were stupor, labored breathing, excessive urination, cough, fevered lungs, congestion of brain, and then death. In a few cases a dose of 60 grains of calomel, in a pint of linseed oil, was reported a successful cure, but no very reliable remedy was discovered. Our correspondent in Howard, Arkansas, distinguishes between blind-staggers and sleepy-staggers. In the latter the animal was taken with a chill, generally while eating, became stupid, scared at everything around, and died in from thirty-six to forty-eight hours. In Menominee, Michigan, another strange malady destroyed 4 per cent.; the marked symptoms were drooping and scouring. In several counties in the South and West horses died of neglect and starvation, rather than the forms of disease whose names were commonly reported in order to cover gross cruelty on the part of farmers. In Kern, California, horses were poisoned by the "loco" or crazy weed. Local horse-diseases of mild type are also noted in several counties as slight exceptions to general health.

DISEASES OF CATTLE.

Cattle-diseases during 1875 were limited in their range and intensity. The meteorological conditions were more favorable to the health of this class of farm-animals than in some previous years, and they enjoyed a greater degree of care and attention in some sections in which they

have hitherto been neglected. In the New England States, with the exception of a few imported cases of Texas fever in Berkshire, Massachusetts, all the counties reporting show an entire exemption from prevailing maladies. A few counties in the Middle States indicate local types of disease, but nothing like a general malady. In the South and West these local types crop out somewhat more numerously, but the Pacific coast reports but few diseases, and those of a mild type. The catalogue of maladies is, therefore, less extensive than usual.

TEXAS FEVER.—In Berkshire, Massachusetts, as above noted, in June, cattle imported into two or three towns from the West showed the presence of Texas fever, but confined to half a dozen herds. Sanitary measures, promptly taken, arrested the spread of the disease, while embargo and quarantine regulations stopped further importations. In Livingston, New York, 30 or 40 western cattle, all of one herd, died of this disease, but native stock were entirely unaffected. Some western cattle died in Washington, Pennsylvania. A disease resembling Texas fever in some points is noted in Burke, North Carolina, where, like other diseases, it is designated by the unmeaning term murrain. This disease annually makes its appearance from the East, traveling westward; it has prevailed in this region for fifteen years, but its severity is less marked than formerly. The disease is also noted in a few cases in Lorain, Ohio, and Scott, Illinois; in the last-named instance the animals were all imported.

ABORTION.—Our correspondent in Montgomery, New York, desires a scientific investigation into the growing tendency to abortion, especially among dairy-cows in that county. Investigations of other diseases are also called for by correspondents in different parts of the country. These gentlemen should understand that Congress has given the Department no facilities for such investigations. With our limited means we can only gather up the general facts, leaving it for scientific authorities to deduce from these facts the pathology and treatment of epizootic diseases. Abortion, to a greater or less extent, is reported in Wyoming, Rensselaer, Onondaga, and Orange, and in Burlington, New Jersey. A strong tendency to this disaster is noted in Lehigh, Pennsylvania. A few cases occurred in Assumption, Louisiana, in Cook, Illinois, and in Stanislaus, California; in the last named about 3 per cent. of the pregnant cows slipped their calves. It is noticeable that this tendency is found almost entirely in localities near great markets; very few cases are observed in the rural districts, and most of cases reporting were in herds of dairy-cows. These general facts seem to indicate something in the management of this class of animals as the cause of this abnormal tendency. In Assumption, Louisiana, this malady was uniformly noted among cows affected with the jaundice, which is so common in that locality as to excite but little remark. The skin becomes very yellow, and the animal loses appetite and spirit. Bloodletting and a seton on the breast have been found of service in relieving the symptoms. This affection is probably the result of poor feeding and neglect; it is aggravated by a late and severe winter.

PLEURO-PNEUMONIA.—This disease was developed in several herds in Burlington, New Jersey. In Baltimore County, Maryland, it has prevailed for ten years, and was troublesome the last year, although it had been partially checked by sanitary measures. Our correspondent here has given close attention to this disease for several years, and has clearly indicated the abuses which have greatly aggravated, if they did not originally cause, this malady. Milk-dairymen still crowd their cows into filthy and ill-ventilated stables, and deprive them of the conditions

of healthy development. As soon as a cow shows signs of indisposition, as by refusing food, drying up her milk, &c., she is immediately slaughtered, and her carcass is sold in the shambles. Many animals in the incipient and some in the advanced stages of pleuro-pneumonia are surreptitiously butchered and marketed, though this nefarious business is accompanied by greater risk from exposure than formerly. As in former years it is observed that dairies using distillery slops are far more liable to this infection than others.

BLACK-FEVER OR BLACK-LEG.—A few deaths from "black-fever" among calves and yearlings occurred in Wayne, Pennsylvania. This is probably the same disease, with modifications, that is elsewhere called black-leg. The latter was very fatal in Highland, Virginia, where the first intimation of the disease was the death of the calf or yearling. A popular impression here is that bleeding would be an efficacious remedy for the disease if it could be discovered in time for treatment. For lack of sick animals to practice on, some farmers bleed all their calves every spring, a proceeding, to say the least, of very doubtful propriety. A few cases also occurred in Tazewell. It is also reported in Bosque, Texas; in Marion and Randolph, West Virginia; in Ogle, Illinois; in Renville, Dodge, Jackson, McLeod, and Taylor, Minnesota; in Humboldt, Clinton, Calhoun, Hancock, Harrison, Kossuth, and Emmett, Iowa; in Nodaway, Chariton, and Harrison, Missouri; in Jefferson, Lyon, Montgomery, Nemaha, Saline, Allen, Butler, and Washington, Kansas; and in Merrick, and Saunders, Nebraska. In most of these cases the disease was of limited range and showed no great virulence.

LUNG-FEVER.—A valuable herd of Alderney cows in Prince George, Maryland, was entirely ruined by what our correspondent calls lung-fever. It results from the sudden exposure to cold of cattle that have become habituated to close, warm stables. In that county it affects more or less all cows brought from dairy-stables in and around Baltimore. The premonitory symptoms are first a peculiar cough observed in no other disease, then the appetite declines, and as the disease advances, the cow stands by herself, head drooping, tongue protruding, saliva dropping from the mouth, bowels constipated, paying no attention to anything around her. Most cases terminate fatally. As facts indicate a contagious character of this disease, it is doubtful whether it should be distinguished from pleuro-pneumonia, which it so much r sembles. Our correspondent having several sick cows, and not knowing what else to do, applied coal-oil to the skin over the lungs eve y day for a week. This caused the hair entirely to drop off, but after a second application the animals began to eat, and all but one recovered. A few cases of lung-fever occurred in Middlesex, Virginia.

DISTEMPER.—Our correspondent in Halifax, Virginia, defines the disease commonly known as distemper in that region as a high, inflammatory fever, of unusual prevalence in dry, hot summers, but of less than usual virulence during the cool, wet summer of 1875. It involves mainly the digestive apparatus, the liver, and the kidneys. It is found very difficult to start a cathartic action of the bowels. *Post-mortem* examination invariably shows the contents of the manifolds to be dry and hard. The disease is more or less contagious. Animals surviving the first attack are liable to subsequent ones, but mostly in a milder form. The difficulty of cure has directed attention more to prophylactics. Our correspondent suggests the following as usually relied on in his neighborhood. A bushel of purest red clay, a gallon of salt, four ounces of saltpeter, and two ounces of sulphur are all mixed together with water to the consistence of stiff mortar. This mixture is kept in the cattle troughs all the

summer and fall, and cattle soon learn to relish it. In Lunenburgh the malady is called also red-water and murrain, and seems to be caused by indigestible food; losses here about five per cent. of all the animals in the county. In Pittsylvania the loss was about six per cent. It is reported also in Randolph, Yadkin, Surrey, and Transylvania, North Carolina.

MURRAIN.—Under this comprehensive but indefinite term is ranged, in popular nomenclature, a great variety of cattle-diseases, often of the most widely differing symptoms. It is used as the synonym of distemper, Texas fever, lung-fever, mad itch, milk-fever, and other maladies; but in the absence of a more definite term, it will be necessary to use it. In Macon, North Carolina, a disease called by this name developed a few sporadic cases, marked by a slight swelling under the throat, bruised appearance of the flesh, and secretions of yellow liquid under the skin after death. It put in a more or less dubious appearance in Dooly and Forsyth, Georgia; in Jackson and Colbert, Alabama; in Coahoma, Mississippi; in Saint Mary's, Louisiana; in Prairie, Arkansas; in Lincoln, Tennessee; in Johnson and Bath, Kentucky; in Tipton, Indiana; in Dodge, Minnesota; and in McDonald, Missouri.

MAD ITCH.—In Coffee County, Tennessee, this disease is locally designated as rub-head. An irritation of the skin causes the animal to rub its head, neck, and shoulders against the ground or any upright object until the blood flows. Death supervenes in two days, if not sooner. It is also noted in Hancock, Illinois.

MISCELLANEOUS.—A few deaths in Adams, Pennsylvania, were attributed to an unknown disease, characterized by dullness, indisposition to eat, &c. In Patrick, Virginia, some milch-cows died of some disease not recognized. The hollow-horn, characterized by one of our correspondents as the synonym of hollow-belly, a disease resulting from defective nutrition, exposure, and neglect, is reported in several counties in the South and one or two in the West. In some cases death by actual starvation is reported. Our correspondent in one of the counties of North Carolina suggests that a portion of the cotton-seed thrown into the compost-heaps could be more judiciously used in feeding cattle and giving them a more respectable appearance. Milk-sickness or milk-fever is reported in Lucas, Georgia, and Lorain, Ohio. Some cattle died of blind-staggers in Perry, Mississippi. Charbon made its appearance, in a small way, in East Feliciana, Louisiana. In Woodruff, Arkansas, in Hancock, Illinois, in Henry and Clinton, Iowa, and in Holt, Missouri, cattle turned into corn-stalk fields without access to water were seriously affected, in many cases resulting in death. In a *post-mortem* examination in Clinton, Iowa, the third stomach was found "caked." The foot-and-mouth disease occasioned slight loss in Atchison, Missouri, but was more severe in Labette, Kansas. In the last-named county the symptoms included the swelling of feet, legs, and salivary glands. An ox far gone with the disease was restored by free drenching with Epsom salts, lard, and copperas. Undescribed maladies are also reported in Putnam and Mercer, Illinois, and in North Missouri.

DISEASES OF SHEEP.

Our April returns give fresh evidence that a little seasonable attention to this class of farm-animals, and an effective legal protection from the ravages of worthless dogs, would make this branch of agricultural production of immense profit to the parties engaged, as well as to the whole country. The diseases noted are mostly the result of neglect, starvation, and exposure. Yet it is gratifying to note the great im-

provement in the treatment of sheep in parts of the country where they have hitherto been left to shift for themselves. In the older parts of the country this is becoming better understood, and more careful treatment is producing its normal results.

FOOT-ROT.—This disease has affected 75 per cent. of the sheep in Rutland, Vermont, within the last ten years, causing during the last year a loss of 10 per cent. It was noted, also, in Ontario, New York, (where it is fast disappearing) Washington and Onondaga, in Salem and Burlington, New Jersey, where it was less severe than usual on account of the dry season, and also, in Delaware, Westmoreland, Washington, and Lawrence, Pennsylvania. Delaware and Maryland are entirely exempt from this and all other sheep-diseases, having a small number of sheep. Foot-rot is also reported in Buckingham, Virginia, in Mitchell, North Carolina, in Lawrence, Alabama, in Summit, Harrison, Wayne, Erie, Jackson, Champagne, Crawford, Delaware, Mahoning, Richland, and Wyandot, Ohio. Michigan, Indiana, and Wisconsin present a clean bill of health, showing neither this nor any other form of disease. Illinois reports foot-rot in Cook and De Witt; Iowa, in Marion; California, in San Luis Obispo.

ROT.—This disease is reported in Scott, Virginia; in Buncombe and Madison, North Carolina; in Taliaferro, Barlow, Towns, Oglethorpe, and Whitfield, Georgia; in Bossier, Louisiana; in Monroe, Tennessee; in Ritchie, West Virginia; in Jackson, Kentucky; in McDonald and Ozark, Missouri; Contra Costa, California. Our correspondent in Oglethorpe, Georgia, attributes the virulence of the disease in that region in part to the habit of keeping the flocks too long in the same field.

SCAB.—This malady was troublesome in Caledonia, Vermont; in Suffolk and Onondaga, New York; in Coffee and Lawrence, Alabama; in Perry, Mississippi; in Kendall, Burleson, Williamson, Bandera, Palo Pinto, De Witt, Gillespie, Collin, Karnes, Medina, and Austin, Texas; in Marion, Vermillion, and De Witt, Illinois; in McLeod and Isanti, Minnesota; in Marion, Iowa; in Atchison, Nodaway, Cass, Grundy, and Butler, Missouri; in Neosho, Allen, and Butler, Kansas; in Cuming, Platte, and Furnas, Nebraska; Colusa, Lake, Alameda, Napa, San Joaquin, Contra Costa, Kern, Mendocino, Merced, San Bernardino, Santa Barbara, Stanislaus, and Tuolumne, California; Umatilla, Wasco, Curry, Douglas, and Grant, Oregon.

GRUB IN THE HEAD.—Reported in Washington, New York; in Fairfax, Virginia; Marion, Mississippi; Williamson, Tennessee; Harrison, Kentucky; Coshocton, Ohio; Washington, Kansas; San Joaquin, California.

PAPER SKIN.—Reported in Baxter, Arkansas; Carroll and Harrison, Ohio.

MISCELLANEOUS.—Randolph, West Virginia, is the only county reporting fluke in the liver. The "pale disease" is noted in Beaver, Pennsylvania; blind-staggers in King William, Virginia, and in Iowa, Wisconsin. Some cutaneous and lung affections of mild type attracted passing notice in several counties, but are not of sufficient importance to classify.

The scab has been exterminated in a large number of counties by the dipping process. A Georgia correspondent attributes the health of sheep in his county to the smallness of the flocks and their free range. In Texas there is a law for the protection of native sheep from imported diseases, which sheepmen are very prompt to expose. In Bandera County an imported scabby flock, through the operation of this law, was

prevented from spreading the infection. In Muskingum, Ohio, sheep kept on dry feed did well, while those turned out to early grass suffered from disease. In Winona, Minnesota, a flock of 1,300 was wintered with the loss of only three venerable animals. In this case there was ample provision for food, shelter, and comfort of the flock.

DISEASES OF SWINE.

Statistical inquiry is, if possible, more embarrassed in classifying swine-diseases than those of cattle. Some of our correspondents feeling this difficulty have taken the trouble to particularize the symptoms of different forms of epizootic disease. If this were done more generally it would be much easier for the Department to present a coherent and intelligible view of these maladies, and of their influence upon the productive interests of agriculture. The record of 1875 shows a very formidable and general visitation of disease in different parts of the country. The most disastrous inflictions are found to be mostly west of the Allegheny Mountains, amounting in some cases to half or three-fourths of the entire stock of hogs in a county. In the New England States and New York the few losses by epizootic diseases included only imported animals, native stock being entirely excepted. In this region, however, as in several sections of the South and West, complaints of small litters of young pigs and of their premature death were so numerous as to cause apprehensions of a short crop of pork the coming year. It is well known that the western pork-packing enterprise of 1875, though operating with high prices and unusually stimulating the markets, fell short of the previous year's packing 686,091 hogs, with a decrease in the aggregate net weight of 105,183,436 pounds, and in the yield of lard of 17,364,027 pounds. Yet this diminished product trenched more closely than ever before known in many localities upon the stock-hogs of the country. The lack of a scientific or even an intelligible popular nomenclature renders it necessary to use the terms by which swine-diseases are generally known, though it is a matter of chronic complaint that these terms are notoriously inexact and that they include the most diverse types of disease.

A dubious mention of slight loss from some disease, called cholera, quinsy, thumps, &c., comes from Monroe County, New York. In New Jersey, Camden reports a loss of 2 per cent.; Burlington complains of large losses, and Warren of 100 deaths, or two-thirds of the cases. Cumberland, Pennsylvania, lost 50 per cent. of her hogs; Dauphin, 10 per cent.; Snyder, Lehigh, and Lycoming, 5 per cent. each; Cambria, Clinton, Adams, Perry, Beaver, Bedford, Northumberland, Westmoreland, and Washington report minor losses; in some cases the disease was complicated by the presence of kidney-worms. Delaware is exempt from all kinds of swine disease. In Maryland, Queen Anne reports an alarming prevalence of destructive symptoms; Baltimore lost 30 per cent., sweeping some entire herds, and yielding to no remedy; Worcester lost 10 per cent., and smaller losses were reported in Frederick, Talbot, Prince George's, Washington, Wicomico, and Cecil. A *post mortem* examination in Prince George's shows lesions of the windpipe, with a yellow frothy liquid in the stomach. In several localities in the State the disease was produced or its symptoms were greatly aggravated by the filthy pens in which the animals were confined. In Virginia, Middlesex and New Kent lost 20 per cent.; Washington and Chesterfield, 10 per cent. each; the disease was more or less destructive in Pittsylvania, Floyd, Halifax, Russell, Sussex, Patrick, Prince William, South-

ampton, Mecklenburgh, Campbell, Elizabeth City, Franklin, Frederick, Pulaski, Accomac, Fauquier, Prince George, Grayson, Henry, Northampton, Scott, and York. In most of these counties the disease was but little more than nominal. Our correspondent in Chesterfield recommends the following remedy: Boil the tops of small pines in water, and mix the decoction with swine-food, or use spirits of turpentine in the same way. Hogs affected should be kept in a dry place, and without access to water. In Washington the disease was believed to result from the presence of lice, which were driven off by applications of turpentine. Disease was generally found to originate from lack of care or cleanliness. In North Carolina, Gates lost one-half; Moore and Cumberland, one-third; Lenoir and Harnett, one-fourth; Warren, Clay, and Watauga, one-fifth, and Gaston, Randolph, Greene, Lincoln, Tyrrell, Buncombe, Haywood, Polk, and Wilkes, from 10 to 15 per cent.; smaller losses in Chatham, Iredell, Yancey, Bertie, Orange, Davidson, Hertford, Mitchell, Yadkin, Duplin, Nash, Person, Pitt, Rowan, Surry, Burke, Pamlico, Madison, Wilson, Alexander, Montgomery, Outlaw, Stokes, and Camden. Our correspondent in Pitt says that the symptoms were of a febrile nature—great thirst, surface-heat, distress, loss of appetite, &c.; sometimes diarrhea sets in, seeming to be nature's effort to throw off the disease. If the complaint does not yield at this stage, it generally assumes a typhoid character, accompanied by pneumonia. No remedy has been found effective; disease contagious. In several counties deaths from starvation were in some cases assigned to cholera. Defective nutrition, with lack of care and attention, were the causes of disease in many neighborhoods. In South Carolina, Georgetown reports very heavy loss, ranging from 25 per cent. to 75 per cent., which depleted the stock of domesticated hogs; those ranging the swamps suffered far less. Horry lost 45 per cent.; the characteristic symptoms here were stupor, loss of appetite, discharge from the bowels of watery yellow offensive matter, hair shedding and replaced by a gray or roan-colored hair. Orangeburgh lost nearly all; Clarendon, 10 per cent.; Edgefield, 75 per cent. of young pigs; smaller losses in Greenville, Barnwell, Lexington, Richland, Spartanburgh, and Chesterfield. In Georgia, losses of a fifth to a half of the stock in the county occurred in Dooly, Lumpkin, Thomas, Montgomery, Terrell, Worth, Early, Macon, Wilcox, Dodge, Screven, Hall, Towns, and Newton; smaller losses in Coffee, Liberty, Schley, Taliaferro, Troup, Union, Baker, Bartow, Carroll, Columbia, Gwinnett, Mitchell, Randolph, Calhoun, Floyd, Gordon, Hancock, Pierce, Clayton, Hart, Oglethorpe, Upson, Warren, Marion, Brooks, Decatur, Franklin, Jefferson, Chattooga, Forsyth, Pike, Sumter, and Wilkes. In Decatur, the prevailing symptoms were lack of appetite, drooping, emaciation, hollow flanks, vomiting, constipation, staggering gait, &c. Some attributed the disease to eating cotton-seed. In Florida, Leon lost 50 per cent.; the disease was also noted in Jackson. In Alabama, losses from 20 to 60 per cent. are reported in Crenshaw, Shelby, De Soto, Cleburne, Lawrence, and Bullock; smaller losses occurred in Lowndes, Jackson, Etowah, Calhoun, Colbert, Monroe, Perry, Butler, Greene, and Russel; Walker lost nearly all. In Mississippi, losses from 10 to 50 per cent. are noted in Greene, Marion, Rankin, Perry, Covington, Choctaw, and Claiborne; smaller losses in Pike, Chickasaw, Clark, Lowndes, and Lauderdale; Kemper, nearly all. In Lowndes, the symptoms were stupor, loss of appetite, hair rough and dead, cough, vomit of matter that looks like the contents of the bowels. Dry food for a change was found beneficial, and the following remedy was successful in some cases: Dissolve in water sufficient to soak a bushel of corn four ounces sulphate of

copper, one pound chloride of lime; soak the corn and feed three times a week; give charcoal, salt, and ashes freely. In Choctaw, cook-house slop mixed with copperas, sulphur, spirits turpentine, &c., was administered with good results. In Louisiana, Franklin lost 25 per cent. and Carroll 60 per cent.; a few sporadic cases in Bossier and Jackson. Texas reports loss from 10 to 50 per cent. in Bowie, Blanco, Somerville, Fannin, Hunt, Anderson, Cherokee, Austin, and Grayson, with smaller losses in Dallas, Harrison, Wood, Cook, Ellis, Lamar, Rusk, and Upshur; in Travis every case was fatal; in Red River and Fannin, the destruction was fearful. In Fannin, the symptoms were stupor, loss of appetite, spasmodic muscular contraction, hard breathing, fevered skin, constipation, and just before death a froth oozing from the mouth; death in great pain in twelve to thirty-six hours; *post mortem* examination showed a watery fluid around the bowels. In Smith, a *post mortem* showed diseased lungs. In Arkansas, losses from 10 to 50 per cent. were noted in Ashley, Lawrence, Prairie, Crittenden, Arkansas, Dorsey, and Newton; smaller losses in Saint Francis, Sharp, Woodruff, Independence, Scott, Howard, and Crawford. In Tennessee, losses from 10 to 30 per cent. occurred in Davidson, Sevier, Bledsoe, Sullivan, Bedford, Warren, Wayne, Johnson, Sumner, Van Buren, Union, Hancock, and Grainger; smaller losses in Fentress, Monroe, Williamson, Lincoln, Truesdale, Washington, Loudon, Roane, Cannon, Houston, Obion, Rutherford, Decatur, Robertson, Tipton, Dickson, Giles, Carter, Rhea, Lauderdale, and Polk. In West Virginia, no county reports over 10 per cent. loss; those noting the presence of the disease are, Hampshire, Lincoln, Putnam, Ritchie, Doddridge, Gilmer, Boone, Jefferson, and Mason; in Mineral it was probably called pneumonia. Kentucky reports more severe losses, from 10 to 50 per cent. in Garrard, Oldham, Fayette, Christian, Marion, Metcalf, Scott, Grayson, Johnson, La Rue, Meade, Bath, Boyle, Jessamine, Lincoln, Warren, Harrison, Hopkins, Russell, and Breckenridge; smaller losses in Cumberland, Fleming, Greenup, Daviess, Lewis, Mason, Spencer, Boone, Carroll, Pendleton, Pulaski, Shelby, and Butler. In Ohio, Fayette and Pike lost 30 per cent.; smaller losses in Clark, Huron, Pickaway, Preble, Miami, Montgomery, Greene, Clinton, Erie, Marion, Champaign, Crawford, Delaware, Licking, Mahoning, Wyandot, and Butler. In Greene, a *post mortem* examination showed hundreds of white worms in the intestines, the largest three-quarters of an inch in length, and the smallest visible only under the microscope. A sick hog in a less advanced stage was killed, and the same parasites were found, but of smaller size. A weak solution of copperas saved animals in the first stages of the disease. In Huron, the glands of the throat were swollen, and death supervened within four days. In Pickaway, hogs following one herd of cattle were affected with nose-bleeding, of which many died; hogs following other herds of cattle remained unaffected; *post mortem* showed lungs full of bloody mucus. Some farms seem unable to raise healthy hogs. In Preble it was noted that hogs badly treated in the winter suffered most. In Michigan, small losses were reported in Branch, Saint Joseph, Berrien, Ottawa, and Oakland. In Indiana, losses from 10 to 50 per cent. occurred in Gibson, Posey, Union, Morgan, Knox, Orange, Warren, Crawford, Decatur, Warwick, Washington, Brown, Clay, Hamilton, Jennings, Johnson, Martin, Wells, Marion, and Pike; smaller losses in Fayette, De Kalb, Rush, Lawrence, Putnam, Clinton, Franklin, Tipton, Shelby, Tippecanoe, Carroll, Dearborn, Madison, Whitley, Cass, Howard, Starke, Hendricks, Jasper, and Laporte. In Illinois, losses from 10 to 50 per cent. in Alexander, Clay, Edwards, Logan, Morgan, Tazewell, Macon, Sangamon, Scott, Clark, Jersey, Macou-

pin, Cass, Clinton, Ford, Franklin, Jasper, Menard, Monroe, Montgomery, Pike, Putnam, Stark, Shelby, White, De Witt, Grundy, Hancock, McLean, and Randolph; smaller losses in De Kalb, Hardin, Jackson, Mercer, Woodford, Lee, Saline, Bureau, Marion, Piatt, Vermillion, Warren, Jefferson, Mason, Pope, and Richland. In Wisconsin small losses reported in Juneau, Jackson, Iowa, and Crawford. Minnesota reports 10 per cent. loss in Taylor and 20 per cent. in Carver, with lighter losses in Todd and Shelby. Iowa reports losses in Adair, Hamilton, Iowa, Lucas, Union, Story, Appanoose, Clinton, Jackson, Polk, Franklin, Johnson, Louisa, Allamakee, Calhoun, Jasper, Jefferson, Jones, Muscatine, Scott, Adams, Des Moines, Guthrie, Harrison, Lee, Linn, Marion, Mills, Montgomery, Sac, Wayne, Dallas, Henry, Monona, O'Brien, and Tama. In some cases these losses amounted to half the stock in the county; they were greatly aggravated by starvation and exposure. In some cases quinsy was also present. In Missouri hog-maladies, variously designated as cholera, quinsy, and thumps, are reported in Atchison, Buchanan, Gasconade, Nodaway, Platte, Worth, Caldwell, Chariton, Howell, Jefferson, Pike, Putnam, Cass, Franklin, Harrison, La Fayette, Macon, Phelps, Ripley, Saint Genevieve, Shelby, Bates, Knox, Mississippi, Moniteau, Montgomery, Saint Charles, Saint Francis, Stoddard, Bollinger, Cole, De Kalb, Holt, Howard, New Madrid, Pemiscot, Ralls, Schuyler, Cape Girardeau, Dade, Livingston, Butler, Carroll, and Iron. In some cases the losses were more than half the hogs in the county. In Kansas the visitation was slight, including mostly imported hogs. Nebraska notes a small loss in Lancaster and Nemaha. Catarrhal affections are reported in Stanislaus, California, and blind-staggers in Clackamas, Oregon. Some cases of death in the Southern States are attributed to excessive feeding with cotton-seed. In Hillsdale, Michigan, a herd of sick hogs were cured by washing the fore legs and breast with soap-suds, thus opening the pores and enabling the skin to discharge the virus of the disease. In Shelby, Kentucky, the following remedy is recommended: 15 pounds each of copperas, madder, sulphur, and black antimony, mixed with 15 ounces each of bluestone and worm-seed, all well pulverized, and administered at the rate of a tablespoonful once a week in moistened meal or bran. A variety of prescriptions, more or less similar to those above given, are reported by correspondents, showing the prevailing ideas of medical treatment in different parts of the country. It seems, however, sufficiently evident that diseases are mostly the result of bad sanitary conditions.

WOOL-CLIP OF 1875.

On the 1st of April only one county in Maine, Lincoln, reports a balance of the clip of 1875 in the farmer's hands, estimated at 5 per cent. In Grafton and Hillsborough, New Hampshire, the remnant is estimated at 25 per cent.; in Cheshire 10 per cent.; in Sullivan 5 per cent.; in Vermont six counties range from 5 to 25 per cent.; in Connecticut, Litchfield holds 10 per cent. and New London 33 per cent.; in New York, thirteen counties range from 1 per cent. to 12½ per cent.; thirteen counties in Pennsylvania, from 3 to 30 per cent.; in Maryland, Wicomico had on hand 25 per cent. and Caroline 10 per cent.; in Virginia, ten counties reported from 1 to 25 per cent.; in North Carolina, thirteen counties varied from 1 to 50 per cent., the last named being Bertie; in South Carolina,

Lexington retained 33 per cent. and Spartanburgh 3 per cent.; in Georgia, Union, Hart, and Fayette had 50 per cent. over, Taylor 25 per cent., and six other counties from 3 to 10 per cent.; in Alabama, six counties had a surplus of 10 to 25 per cent.; in Mississippi, Tishemingo had 50 per cent., and Winston, Choctaw, and Chickasaw 25 per cent.; in Louisiana, East Feliciana still holds a third of her clip; Titus, Texas, has still half her fall clip, and DeWitt 5 per cent.; in Arkansas, Cross had not disposed of any part of her clip; Perry held half of hers, and five other counties from 5 to 20 per cent.; in Bedford and Dickson, Tennessee, half still remained, and eleven other counties held from 2 to 25 per cent.; in West Virginia, eleven counties held from 1 per cent. to 12½ per cent.; in Kentucky, 8 counties retained from 5 to 25 per cent.; in Ohio, twenty-one counties still held from 2 to 25 per cent.; in Michigan, ten counties from 5 to 20 per cent.; in Indiana, sixteen counties from 5 to 20 per cent.; in Illinois, seven counties from 5 to 30 per cent.; in eleven counties from 2 to 10 per cent.; in Minnesota, Renville still held half her clip, and five other counties from 5 to 18 per cent.; in Iowa, Jones had still half on hand, and five other counties from 5 to 25 per cent.; in Missouri, fifteen counties from 5 to 33 per cent.; in Kansas, four counties from 10 to 33 per cent.; in Nebraska, Dawson still held a third; in California, Yuba and San Luis Obispo still held a third, and four other counties from 3 to 10 per cent. These are all the counties reported as retaining balances in the hands of the farmer, showing a very close marketing of the clip of 1875.

THE TOBACCO-CROP.

Our annual census of tobacco, in counties producing not less than 100,000 pounds, makes a large increase of production over the crop of 1874, which was a comparative failure, and in some sections a heavy increase of area in cultivation. The returns have not all been received, and the aggregate produced last year is, therefore, delayed until the publication of the annual.

An inspection of the tables will afford an indication of the ratio of increase. The increase is large in Pennsylvania and Maryland. In Virginia, Pittsylvania County returns 6,000,000 pounds against 4,200,000 last year, and Mecklenburgh 4,000,000 instead of 2,000,000. Several of the best tobacco counties in North Carolina report a large increase. Tennessee came nearer a total failure in 1874 than any other State, making the figures for 1875 appear very conspicuous. In Kentucky and Missouri there is also a large increase.

OUR CENSUS OF THE GREAT TOBACCO COUNTIES.

The Connecticut River crop in New Hampshire matured well, under the influence of a warm autumn, except from frosts. The Hampden County (Massachusetts) yield might be considered average in quality, with perhaps a smaller percentage than usual of prime wrapper-leaf, the result of the ravages of the cut-worm at the time of setting. Hartford, the center of the Connecticut supply, reports only medium quality, resulting from unfavorable weather for growing and curing. The crop of the Litchfield region was of low quality, from late setting and subsequent drought. The New York crop is not very heavy. Onondaga County reports 600,000 pounds, grown on 750 acres, of the best quality obtained in the past three years.

In York, Pennsylvania, the leaf is large in size and of fine texture, though much of it is subject to a blemish caused by intervals of hot sunshine in cloudy weather, causing the leaf to "fox." The crop is larger and finer than that of 1874. Except the "foxy" portion, it is equal to the stock of 1873, the finest ever produced in that region. Some of it was injured by being stripped in too damp a condition, making it too tender for wrappers. The price varies from 4 to 20 cents, the average being placed at 8 cents. The estimate for Lancaster County, 13,884,000 pounds, grown on 9,286 acres, shows that the interest is not declining in the heart of Pennsylvania. The crop is worth about $2,500,000.

The quality of the tobacco of Calvert, Maryland, is decidedly better than that of the previous crop. Seasonable rains caused luxuriant growth and a fine texture of leaf. Good weather throughout the curing process produced a larger proportion of yellow and red qualities. The same causes, however, gave an unusual proportion of "ground-leaf," so that fully one sixth of the crop went to market in this form, and sold at very low prices. In Charles the quality is generally good, the leaf fine and silky, generally bright but very light from excess of rain in August, being forced up too rapidly to acquire body and weight. In Howard the season for planting and growth was propitious; in the later season growth was too rapid, producing a weaker leaf than usual. The Montgomery yield was of average quality. Our Prince George's correspondent writes of the vital importance of a revision of the inspection-laws, to give better satisfaction in sampling both to buyers and producers. The quality in this county is above average, the principal defect being the "firing" of the ground-leaves from excessive rains. In some cases the ground-leaves were a third of the crop, selling in the fall at 3 to 9 cents per pound. In Saint Mary's a good quality was obtained, a little light in proportion to bulk. The Frederick crop was an average in quality.

A large increase of area was made in Albemarle, Virginia, in consequence of the small crop and high prices of 1874, which was reduced somewhat by frost in April. The season was subsequently favorable to leaf-growth, and a large crop was obtained of light and thin tobacco, deficient in the essentials of a "good, heavy, rich article." A large proportion of the crop of Botetourt is characterized by our correspondent as nondescript, due to several causes: 1st, early summer drought; 2d, the ripening and housing season too wet; 3d, the colored people entered more largely into tobacco growing last year than ever before in this county, many of them not having suitable land, others without proper facilities to cultivate a crop, and others too indolent to give it that prompt and careful attention which is necessary to secure a good article. Our Brunswick correspondent is enthusiastic over the tobacco-lands of his vicinity, claiming the best shipping-tobacco in the United States — light-clay surface on red-clay subsoil. In Buckingham a wet summer reduced the average of quality. In Campbell injury was caused by early frost. In Caroline a fair quality was obtained, yet a large portion of the crop went to market in too damp a condition. The prevalent cause of injury, too much rain in the growing-season, rendered the Charlotte crop rather light. A medium grade was reached in Chesterfield; the best on good lands, well manured and thoroughly cultivated; the poorest injured by wet weather and green cutting. Early frosts in Floyd did not reduce the average of quality below medium. The heavier soils of Fluvanna, the river-bottoms, and heavy clays yielded a coarse article; the light soils produced a better grade. A large increase of product was realized. The quality of the product of Franklin was reduced in

consequence of the planting and poor cultivation, in many instances. It was of light and chaffy quality in Goochland, from excess of wet weather, and light, also, in Hanover. An unusually favorable season for ripening and curing made an excellent crop in Henry. In Lunenburgh the weather was unfavorable in August and also in December and January, and there was a lack of suitable barns and curing-houses for protection from the weather. There is a popular opinion here that the use of commercial fertilizers reduces the quality. The great number of small patches without facilities for curing causes a reduction of the average. An excellent quality was obtained in Mecklenburgh, especially on high lands, the lower situations being somewhat too wet in August. The weather was too wet in Montgomery and too dry in Nottoway. In Prince Edward the wet weather, at the usual period for cutting, continued, and made it necessary to cut much of it before full maturity. The quality of Danville tobacco is not quite up to the standard of last year, but is medium and the color good. In Powhatan the leaf was light from the excess of summer rains. Planters generally concede that the crop of 1875 is from five to ten times as great as in 1874, and that but for excessive rains it would have been a third larger still.

The effect of excessive moisture is seen very generally in the crop of North Carolina, which has more light and chaffy material in it than usual. This is especially noticed in Person, Alamance, Caswell, Granville, Orange, Stokes, Forsyth, and Surrey. It is about an average in Guilford. Still there is some rich, waxy stock of good color; a fair proportion of a comparatively bright article, but little that is strictly fine, yellow tobacco. In some cases tobacco wanting in wax has a desirable color. In Caswell there was considerable injury from the "spot" and "sore-shin," (rotting of the stock near the surface of the ground,) and less than half a crop was produced. Our correspondent in Alamance County regards the use of flues of brick or stone, covered with sheet-iron and making a circuit through the shed or barn, as less dangerous than the method of curing by coal. Wood is supplied from the outside, and the heat can easily be regulated. Sun-curing is deemed best for chewing-tobacco. He sends some remarks upon the cultivation and curing of fine yellow tobacco by Maj. Robert L. Ragland, of Halifax County, Virginia, an expert in the production of high-priced samples, from which the following extracts are made:

The "Yellow Oronoco" and "Silky Pryor" are the kinds best adapted to coal-curing, while gray soils, (and the fresher the better,) with dry, porous subsoil, are best adapted to the growth and maturity of yellow tobacco.

Plant in hills, instead of beds, as soon after the 10th of May as the plants and season will admit. Commence cultivation as soon as the plants begin to spread over the hills, whether grassy or not, and continue to stir the land with plows and hoes till the tobacco begins to come in top, using short singletrees, as the plants increase in size, to prevent breaking and bruising. When the plants are too large to admit the plow, use only hoes to keep down the grass and weeds.

To prevent depredations by the fly, use ground plaster, in which rags, saturated with kerosene-oil, have been laid for some hours, and cover the plants, if necessary, with the plaster thus prepared.

Wait till a considerable number of plants begin to button for seed before you commence to top; then these will ripen about the same time. Topping must be done according to the appearance and promise of each plant, strength of soil, and time the work is done. First topping for medium tobacco should be from ten to twelve leaves, rarely more; priming off lower leaves, neither too high nor too low, but just enough, so that when the plant ripens the lower leaves may be well off the ground.

Continue topping as the plants are large enough, observing, as the season advances, to top lower and lower, so as to bring in the late plants before frost.

The plow should not be used later than the 1st day of August, as plowing late keeps the tobacco green too long, and may cause it to ripen of a green color. The hoe should be relied on after that time to clean the crop.

After the tobacco begins to grain, that is, to ripen, neither plow nor hoe should be used, as it has been found best to sacrifice pounds to color.

The plants after being topped should be kept clear of worms; or, better still, kill the tobacco-fly with cobalt in the flowers of the "Jamestown weed,"* and the suckers should be pulled off before they grow too long. Mind, do not be in a hurry to cut your tobacco before *fully ripe*, and enough fully and uniformly ripe to fill a barn. Have your barns close, (log ones are best,) well daubed, and dry. Cut the tobacco of uniform size, color, and quality, putting about seven medium plants to an ordinary 4½-foot stick. Let the plants go from the cutter's hands over the stick in the hands of a holder, who will serve two cutters. When the stick is filled it should go directly, without touching the ground, on a wagon, to be carried, when loaded, (not too heavily,) to the barn. It will take from seven hundred to eight hundred sticks of tobacco to fill a barn 20 feet square, with five rooms, and four firing-tiers below joists, placing the sticks about 10 inches apart, the proper distance for medium tobacco. As soon as the barn is properly filled and the tobacco regulated on sticks and tiers, fires of coal or hickory wood should be built in the barn, four fires in a row under each room, thus giving twenty fires to a barn 20 feet square. If hickory wood is used, let it be sapling wood, cut about 2 feet long, and green, or partially dry. Next to coal, hickory furnishes the best yellowing-heat.

The first step in curing is called the STEAMING or YELLOWING process. Medium tobacco will require about thirty-six hours steaming, at about ninety degrees Fahr., to yellow sufficiently; but tobacco with more or less sap, larger or smaller, may require longer or shorter time to yellow. Here the judgment of the curer must be his guide. Inexperienced planters would do well to procure the services of an experienced curer, if they have tobacco suitable for coal-curing. The planter saves, in the enhanced value of his crop, many times the money paid to the curer; and, besides, by close observation, he may learn in one season to cure well himself. Theory alone, however good, and directions, however minute, will not do here; but it is *practice* that must qualify one to cure well.

The next step in curing yellow tobacco is called FIXING THE COLOR. When the tobacco is sufficiently yellowed, at ninety degrees Fahr., the best leaves of a uniform color, and the greener ones of a light pea-green color, it is time to advance the heat gradually but cautiously. Keep the heat from ninety to ninety-five degrees Fahr., say for about an hour, then run up from ninety-five degrees to one hundred degrees, keeping the heat between those figures for about *two hours*, observing to let the mercury descend a little every time after raising, before putting on more coal—coal only should be used now. This is done to prevent sweating the tobacco, a continuous heat operating more to do that than a fluctuating one, as described. Should the tobacco get into a sweat at this or any future stage, which is indicated by the leaf becoming damp and limber, as though partially scalded, raise the fires a little, and open the door; this creates a current of heated air that will soon dry out the leaf. The thermometer may fall even *ten degrees* here without injury to the color. It is advisable, however, that the tobacco be kept free from sweating, if possible. Next advance the heat, running from one hundred to one hundred and five for about *two hours*. When at one hundred and five degrees, you have arrived at *the most critical point* in the difficult process of curing bright tobacco. The condition and appearance of the tobacco must be the curer's guide. No one can successfully cure tobacco till he can distinguish the effects of too much or too little heat at this important stage. I will try to explain what is very plain to every experienced curer, but unknown to the beginner.

Too little heat in fixing color operates to stain the *face* side of the leaf of a dull Spanish-brown color, and is called *sponging*, and may be known to the novice by its effects being visible only on the *face side;* too much heat reddens the leaf, first in spots, visible on the edge of the leaf, redder than the former, and visible on *both sides* of the leaf. Now, to prevent sponging on the one hand and spotting on the other, is the aim of the experienced curer. Therefore, no definite time can be laid down to run from one hundred and five to one hundred and ten degrees. Sometimes one hour is sufficient; sometimes three is fast enough. The same may be said in running from one hundred and ten degrees to one hundred and twenty degrees. While it is usual to advance in this stage about five degrees every two hours for medium tobacco, the condition of the tobacco often indicates to the practiced eye the necessity for slower or faster movements. Remember not to advance over one hundred and ten degrees till the tails begin to curl up slighty at the ends.

Arrived at one hundred and twenty degrees, this is the *curing* process. The heat

* Dissolve an ounce of the cobalt of the shops in a pint and a half of water, and mix it with molasses or other sirup, bottle it, and drop it through a quill into the heart of the blossom. It should be done about sun-down, and the poisoned flowers pulled off next day; otherwise the plant will be destroyed. It has been found that this weed, so treated, planted around the edge of the tobacco-lot, and here and there through the patch, will prevent, to a great extent, the ravages of the tobacco-worm. All the planters, however, in one neighborhood must act together, and this can be arranged through the local agricultural club.

should remain at or near one hundred and twenty degrees till the leaf is cured, which takes from four to eight hours, according to circumstances. When the leaf appears cured, advance five degrees every hour up to one hundred and seventy degrees, and here remain till stalk and stem are cured. To run above one hundred and eighty degrees is to endanger scorching the tobacco, and perhaps burning both barn and tobacco. To recapitulate:

1st. Steaming or yellowing process	90 degrees	for	36 hours.
2d. Fixing the color	90 to 95 degrees	for	1 to 2 hours.
Fixing the color	95 to 100	"	2 "
Fixing the color	100 to 105	"	2 "
Fixing the color	105 to 110	"	1 to 3 "
Fixing the color	110 to 115	"	2 "
Fixing the color	115 to 120	"	2 "
3d. Curing of leaf	120	"	4 to 8 "
4th. Curing stalk and stem	120 to 170	"	5 deg. per hour.

and continue at one hundred and seventy degrees till stalk and stem are thoroughly cured.

After curing, as soon as the tobacco is sufficiently soft to move, it should be run up in the roof of the barn and crowded close. If warm, rainy, or damp seasons occur soon after, dry out the tobacco with coal-fires, remembering to commence with small fires, as when curing, and gradually raise them till the tobacco is well dried. It is important to attend strictly to this; for if your tobacco is cured yellow it will not remain so if, soon after curing, it is suffered to get in too "high order," that is, absorb too much moisture. When ready to strip, it should be assorted well, the several grades put together, making about three grades of leaf and two of lugs. Tie in neat bundles five or six leaves of "*leaf*" and eight to ten of "*lugs*." Place twenty-five bundles on the stick, and strike down as soon as stripped, unless in too high order. But it is not safe to permit tobacco thus struck down in winter-order to remain down longer than 1st of June. Watch it closely to preserve from injury. It is better to market in winter-order than to hang up in the barn to dry out and be re-ordered; for tobacco once bulked down and then hung up in the barn again loses that sweet, mellow flavor so desirable, and never regains it when prized.

Pack neatly in tierces (half hogsheads making the best and most economical) to weigh from four hundred to five hundred pounds net. Take care that the tobacco be not pressed so as to stick together or be bruised, and let each tierce be filled with tobacco uniform in color, length, and quality.

"If at first you don't succeed,
Try, try again;"

and act out that motto. You will have the satisfaction ere long of earning success and reaping the reward of your perseverance in doubling and trebling your income from this crop.

The crop of Cuban tobacco grown in Gadsden County, Florida, is increasing in quantity. In 1870 the census reported 118,729 pounds. Last spring our reporter returned 200,000, and this spring 350,000 pounds for the crop of 1875, grown on 450 acres, an enlargement of 50 per cent. in the area planted. The price is not yet given; 200 boxes of 350 pounds have been sent to New York, but returns of sales have not been received. The quality is the best of any crop since 1865, attributed to the fact that experienced planters have resumed its cultivation. Our correspondent claims that the test of forty years' experience proves that deterioration is not produced in that soil and that climate, and expresses the opinion that Florida tobacco should supersede the Cuban in cigars.

The effect of wet weather is also seen in Tennessee in reducing the quality of this product; and a further reason adduced is the inexperience of a multitude of beginners in the business. Our Smith County correspondent remarks the increase of care in handling. Our correspondent in Robertson counsels the necessity of stamping or rolling, and "brushing" heavily the seed-bed after seeding, to secure the retention of moisture during the period of March and April winds. He forwards the following statement of Mr. C. C. Bell, a successful grower of his county:

To raise tobacco profitably the best lands should be selected. New lands, when well prepared and well cultivated, make a very good article; but old lands, well manured,

generally make our finest tobaccos. Among the favorite varieties of tobacco produced in our county are the Yellow and Blue, Little Yellow, Pryor Williams, and Beat All. All of which, if planted in good lands and well cultivated and properly cured, will make tobacco suited for wrappers and more especially adapted for the foreign markets that pay the best prices for American tobacco. Plant-beds are generally burned in the richest spots of woodland, with brush or wood, in the months of January, February, and March, and the plants are ready for transplanting by the 20th of May or 1st of June. Before the time arrives for transplanting, the lands intended to be planted should be plowed deep, well harrowed, and fully pulverized, after which small hills should be made about 3½ feet apart each way, and after the plants have been set they should be well cultivated, never permitting the lands to get the least foul with weeds or grass; and another very important point is to keep off the worms and not allow them to cut the leaves full of holes. Tobacco should never be topped to more than ten leaves. Cut when fully ripe and carry it immediately to a tight barn, (never hang on a scaffold,) and fires should be started under the tobacco soon after it is hung in the barn, started and kept up slowly for the first day, after which it might be increased and should be kept up steadily until the tobacco is fully cured. After which it should be assorted, tied in small bands, and neatly bulked. Tobacco thus produced and cared for will always sell for twice the amount of such as is poorly cultivated, worm-cut, and badly cured.

The West Virginia crop cannot be considered average in quality. The injury from the wet and hot season was greater in some counties than in others.

The complaint of injury to quality is very general in Kentucky, the plants being submerged in June and July, and subsequently exposed to great heat, parching and cracking the earth, and "firing" the leaf, and resulting in an immature crop, deficient in gum and chaffy in texture. In some sections there was too much rain in August. There is not so much loss in the color as in other qualities. There is much tobacco that is "frenched." Bad quality is attributed to bad handling, in Fulton County. The leaf is short and the color dark in Pendleton. Medium or good quality is reported in Oldham, Metcalfe, and Livingston. Cutting and manufacturing is reported bright in Muhlenburgh County.

Wet weather had its influence in Ohio, and early frost caught a portion of it in immature condition. Along the Ohio River considerable areas were entirely destroyed by floods, and in the interior many fields were similarly destroyed. The color, as well as the texture of the leaf, suffered injury quite generally. The Warren County crop is represented as a total failure. In Noble, new land products are fine. A leaf of fair quality, though light, is reported in Morgan. In Adams County that grown on rolling land is fine, but the product of level lands is light and trashy. In Vinton there was much rain in the early part of the season; the later months were very favorable, the plant ripened well, the leaf was thick and retained its gum, and the crop is claimed to be the best ever raised there.

The crop of Indiana suffered from causes affecting tobacco elsewhere. "Frenching" was very common, and the cutting was necessarily done in many instances before maturity, greatly deteriorating the quality.

Quality is also lower in Illinois. In some localities increased attention has been paid to this crop, and the area greatly enlarged—in part, by new-comers from the Southern States.

A marked increase in the area planted in Missouri is indicated, as the tables will show. There is much complaint of injury by wet weather and subsequent heat, and frequent mention of "frenching," but less than in the States of the Ohio River. Inexperience in housing and curing has affected quality in Saint Charles, and the army-worm wrought some injury. Late planting, after the disappearance of grasshoppers, left the crop immature at the season for cutting in Ray County. In Franklin, the injury was only from drought and frost. In Chariton, quality is generally good; also, in Randolph a favorable season was enjoyed; and the product of Howard was very good." Our Howard

correspondent states that "the season was favorable for planting; a large portion of the crop was set early; it was remarkable throughout the growing period; no annoyance by worms, no 'ragged edges;' but little was frosted. The autumn was dry, and very favorable for taking care of the crop. These conditions caused quantity, quality, and color to be remarkably good. The season was so favorable that some portions of the crop was cured out-doors for want of house-room."

Tobacco-crop of 1875.

States and counties.	Pounds, census 1870.	Pounds estimated for 1875.	Number of acres in 1875.	Price per pound. 1875.	Value, 1875.
				Cents.	
PENNSYLVANIA.					
York	527, 808	1, 275, 000	850	9	$114, 750
Lancaster	2, 692, 584	13, 884, 000	9, 256	5. 5	763, 620
Total	3, 220, 392	15, 159, 000	10, 106	5. 7	878, 370
MARYLAND.					
Calvert	3, 158, 200	3, 350, 000	5, 550	7. 5	251, 250
Charles	2, 102, 739	2, 100, 000	3, 000	7. 5	157, 500
Howard	182, 980	150, 000	250	10	15, 000
Montgomery	630, 000	800, 000	1, 000	12	96, 000
Prince George's	3, 665, 054	4, 800, 000	7, 500	9	432, 000
Saint Mary's	2, 522, 917	3, 000, 000	4, 000	8	240, 000
Frederick	274, 369	332, 009	.....	.....	.....
Total	12, 536, 259	14, 532, 000	21, 300	8. 3	1, 191, 750
VIRGINIA.					
Albemarle	1, 781, 619	3, 000, 000	4, 500	7	210, 000
Bedford	1, 956, 157	3, 800, 000	5, 066	8	304, 000
Botetourt	196, 459	650, 000	1, 200	6	39, 000
Brunswick	1, 121, 480	2, 522, 190	2, 500	8	201, 775
Buckingham	809, 937	1, 255, 580	2, 550	7	87, 890
Campbell	1, 761, 901	1, 813, 800	2, 250	7	126, 966
Caroline	417, 848	400, 000	500	6	24, 000
Charlotte	1, 964, 736	1, 600, 000	.....	8	128, 000
Chesterfield	194, 510	200, 000	500	9	18, 000
Dinwiddie	844, 504	495, 000	1, 320	8	39, 600
Floyd	157, 467	360, 000	900	12	43, 200
Fluvanna	894, 023	1, 200, 000	1, 200	10	120, 000
Franklin	1, 696, 549	1, 900, 000	4, 000	9	171, 000
Hanover	439, 434	329, 574	450	6	19, 774
Henry	1, 129, 617	30, 000, 000	5, 000	11	330, 000
Lunenburgh	963, 673	775, 000	2, 000	6. 5	50, 375
Mecklenburgh	2, 166, 628	4, 000, 000	7, 000	6	240, 000
Montgomery	204, 747	800, 000	1, 250	18	144, 000
Nottoway	653, 296	914, 614	1, 400	6	54, 876
Patrick	323, 886	1, 001, 658	1, 178	10	100, 165
Powhatan	541, 430	790, 000	700	11	86, 900
Pittsylvania	4, 282, 511	6, 000, 000	14, 000	10. 5	630, 000
Prince Edward	960, 700	1, 200, 000	2, 400	7. 5	90, 000
Goochland	405, 215	726, 000	726	6	43, 560
Total	25, 868, 327	38, 733, 416	62, 590	8. 5	3, 303, 081
NORTH CAROLINA.					
Alamance	155, 570	640, 000	1, 600	12	76, 800
Caswell	2, 262, 053	1, 750, 000	3, 500	10	175, 000
Forsyth	238, 262	1, 000, 000	2, 000	10	100, 000
Granville	2, 134, 228	2, 200, 000	4, 400	10	220, 000
Orange	530, 442	1, 005, 000	2, 010	9	90, 450
Person	1, 227, 150	1, 500, 000	3, 080	10	150, 000
Stokes	844, 145	900, 000	1, 600	8	72, 000
Guilford	177, 782	143, 412	370	8	11, 472
Surry	254, 286	747, 000	2, 450	8. 5	63, 495
Total	7, 823, 918	9, 885, 412	21, 010	9. 7	959, 217
FLORIDA.					
Gadsden	118, 799	350, 000	450	.....	.....
KENTUCKY.					
Adair	1, 231, 665	1, 500, 000	3, 000	4	60, 000
Allen	747, 489	750, 000	1, 000	6	45, 000

Tobacco-crop of 1875—Continued.

States and counties.	Pounds, census 1870.	Pounds estimated for 1875.	Number of acres in 1875.	Price per pound, 1875.	Value, 1875.
KENTUCKY—Continued.				*Cents.*	
Ballard	2,863,455	2,343,600	3,255	8¼	$193,473
Boone	279,740	560,000	600	6	33,600
Bracken	4,188,039	4,000,000	6,666	7	280,000
Breckinridge	3,338,471	3,250,000	6,500	7.5	243,750
Callaway	1,924,502	2,000,000	2,500	7	140,000
Carroll	669,875	700,000	850	8	56,000
Clinton	117,238	225,000	425	6	13,500
Cumberland	1,304,366	900,000	1,650	7	63,000
Daviess	6,273,067	8,500,000	.....	7	595,000
Edmonson	414,840	150,000	300	7	10,500
Fulton	383,636	500,000	666	8½	42,500
Gallatin	157,050	225,000	375	7¼	16,312
Grayson	859,760	1,300,000	3,222	5	65,000
Green	1,375,091	2,000,000	2,750	6.5	130,000
Harrison	281,704	275,000	550	9	24,750
Hart	2,315,212	1,120,000	1,600	7	78,400
Henry	1,375,364	800,000	900	7	56,000
Hopkins	3,012,053	5,000,000	8,333	6	300,000
Kenton	360,983	500,000	750	7	35,000
Livingston	1,086,578	500,000	250	5	25,000
Logan	2,707,571	4,656,000	11,640	6¾	314,280
Marion	132,293	40,000	100	6	2,400
Marshall	1,416,282	1,500,000	3,000	6	90,000
McLean	2,262,037	1,750,000	8,750	6½	113,750
Monroe	674,696	600,000	1,000	5	30,000
Muhlenburgh	1,821,988	4,000,000	6,000	7	280,000
Owen	2,890,670	3,650,000	7,300	6	219,000
Pendleton	1,651,593	1,600,000	2,500	8	128,000
Shelby	240,435	145,000	180	7	10,150
Simpson	1,072,401	2,000,000	3,600	6	120,000
Taylor	1,209,830	1,202,000	3,000	4.5	54,090
Union	2,096,260	4,000,000	8,000	7¼	290,000
Fleming	305,954	600,000	750	7.5	45,000
Metcalfe	1,310,381	800,000	500	5	40,000
Oldham	301,285	400,000	500	5	20,000
Meade	539,000	650,000	100	6	39,000
Total	55,192,854	64,691,600	103,062	6.6	4,302,329
TENNESSEE.					
Benton	412,435	800,000	1,800	6	48,000
Cheatham	419,265	600,000	1,000	8	48,000
Dickson	462,130	750,000	1,500	7.5	56,250
Jackson	713,578	1,500,000	3,000	5.5	82,500
Macon	950,768	600,000	750	6	36,000
Montgomery	4,856,378	6,500,000	.....	8.9	578,500
Robertson	2,103,322	2,700,000	5,400	8	216,000
Smith	2,250,202	3,636,000	4,545	5	181,800
Sumner	909,568	337,500	750	5.5	18,562
Putnam	131,856	165,500	206	7	11,585
Wilson	332,901	660,000	.....	5.5	33,000
Weakley	2,599,590	3,603,600	5,148	7.5	270,270
Total	16,141,993	21,792,600	24,099	7.2	1,580,467
WEST VIRGINIA.					
Cabell	135,410	100,000	150	5	5,000
Kanawha	412,469	306,250	245	12	36,750
Mercer	117,429	140,000	185	12	16,800
Monroe	123,221	160,000	475	10	16,000
Total	788,529	706,250	1,055	10.5	74,550
OHIO.					
Adams	102,473	150,000	240	12	18,000
Belmont	1,480,478	639,518	744	5.5	35,173
Brown	2,687,743	550,000	656	9	49,500
Greene	277,360	200,000	250	4.5	9,000
Guernsey	474,178	450,000	800	5.5	24,750
Monroe	2,845,525	2,400,000	4,000	5.5	132,000
Montgomery	3,963,183	1,050,000	3,200	5	52,500
Morgan	486,125	900,000	1,200	5¼	47,250
Noble	2,304,557	1,500,000	1,500	5.5	82,500

Tobacco-crop of 1875—Continued.

States and counties.	Pounds, census 1870.	Pounds estimated for 1875.	Number of acres in 1875.	Price per pound, 1875.	Value, 1875.
OHIO—Continued.				*Cents.*	
Preble	330,987	290,000	400	4½	$12,325
Vinton	110,739	144,000	144	5	7,200
Warren, (total failure)	.....	.....	.....	.....	.....
Total	15,063,348	8,273,518	13,134	5.6	470,19-
INDIANA.					
Pike	1,119,356	1,000,000	1,500	4.5	45,000
Spencer	3,019,970	3,500,000	10,000	6	210,000
Warrick	3,611,775	4,000,000	8,000	5	200,000
Total	7,751,101	8,500,000	19,500	5.3	455,000
ILLINOIS.					
Hamilton	471,860	600,000	1,000	5.5	33,000
Johnson	307,013	196,000	280	5	9,800
Pulaski	157,000	60,000	120	8	4,800
Saline	1,155,941	2,000,000	4,000	5½	110,000
White	135,045	150,000	450	5	7,500
Williamson	1,152,589	2,400,000	4,800	5¾	138,000
Edwards	133,150	120,000	160	.....	.....
Total	3,512,598	5,526,000	10,810	5.6	303,100
WISCONSIN.					
Dane	229,568	(*)	1,929	4	.....
Rock	645,508	2,210,000	2,210	6	132,600
Total	875,076	2,210,000	4,139	6	132,600
MISSOURI.					
Boone	149,634	1,500,000	2,145	5.5	82,500
Chariton	2,993,981	12,000,000	10,000	5.5	660,000
Franklin	783,270	463,000	590	9	41,670
Howard	788,132	1,500,000	2,500	5	75,000
Lincoln	891,727	700,000	1,200	10	70,000
Montgomery	203,170	187,500	208	10½	19,218
Osage	119,617	250,000	275	10	25,000
Randolph	873,776	4,500,000	5,600	5¼	236,250
Ray	190,355	80,000	133	3½	2,800
Saint Charles	146,754	96,000	160	8	7,680
Saline	215,475	2,500,000	2,500	5½	137,500
Stoddard	118,534	210,000	250	5	10,500
Webster	143,162	500,000	625	10	50,000
Total	7,617,587	24,486,500	26,186	5.7	1,418,118

* Almost a failure.

FORESTRY.

The destruction of forests, as affecting the agricultural as well as the manufacturing interests of the country, is a subject of much solicitude just now. How rain-fall is affected by the presence or absence of growing timber, if affected at all, and why its destruction causes a diminution of fountains and springs, and the volume of running streams, are the subjects which produced the following correspondence between the president of the San Diego Society of Natural History and the Commissioner of Agriculture. Inasmuch as the views of the Commissioner are asked upon a debatable subject, they are published for the purpose of eliciting thought and prompting further discussion of the subject.

SAN DIEGO SOCIETY OF NATURAL HISTORY,
San Diego, Cal., November 21, 1875.

SIR: Will you oblige me by a reply in brief, or at length, as convenience will allow, to the following questions upon a subject of much local interest and practical importance here:

What is your opinion regarding the influence of forests and tree-culture upon rain-fall?

Are you able, from observed facts, to show that the rain-fall of regions barren of timber may be increased by the cultivation of trees, or that rain-fall is diminished by the destruction of forests?

Will you be kind enough to refer me to any published facts bearing on this subject with which you are acquainted?

I am, very respectfully,

G. W. BARNES.

To COMMISSIONER OF AGRICULTURE.

DEPARTMENT OF AGRICULTURE,
Washington, April 11, 1876.

DEAR SIR: The subject of your letter is one which has occupied for the last few years much of the attention of scientific men; and while I have a very decided conviction of my own upon which to answer your question, "What is your opinion regarding the influence of forests and tree-culture upon rain-fall?" I should regret that such opinion should exercise any influence to retard the planting of trees or the preservation of existing forests, for both so greatly conduce to the interests of agriculture, mechanics, and health. The existence of a forest indubitably keeps the earth covered by it in a condition to receive and preserve rain-fall, and to administer it gradually to fountains and streams, whereby their supply of water remains undiminished in countries which are not denuded by settlement and consequent cultivation, while in densely-populated States, where forests have all been cut down, the earth is exposed to the sun, the heat, the wind, whereby its surface is made hard, and in a measure impervious to water, which runs off into the streams and is carried away from serving any useful purpose. My opinion is that forests do not conduce to rain-fall.

There is, perhaps, no country that will give a stronger illustration of this subject, at some future day, than many of the States of this Union. Pluviometrical observations have been made for more than sixty years in some of the earliest-settled States, and within that time rain-fall has not diminished. Although this period may not be long enough to establish many other meteorological facts, it is but natural to suppose that an effect upon rain-fall by the existence of a forest, if such an effect were produced at all, would be more or less immediate, yet such an effect has not yet been perceived at all.

It should be remarked, too, that while many of these States have been extensively cleared and cultivated, tree-culture has been largely attended to. And while trees thus planted might produce their effect upon rain-fall, if any such effect is produced; yet they do not operate as forests do, to preserve the condition of the surface of the earth as reservoirs of water, to be distributed gradually to fountains and streams.

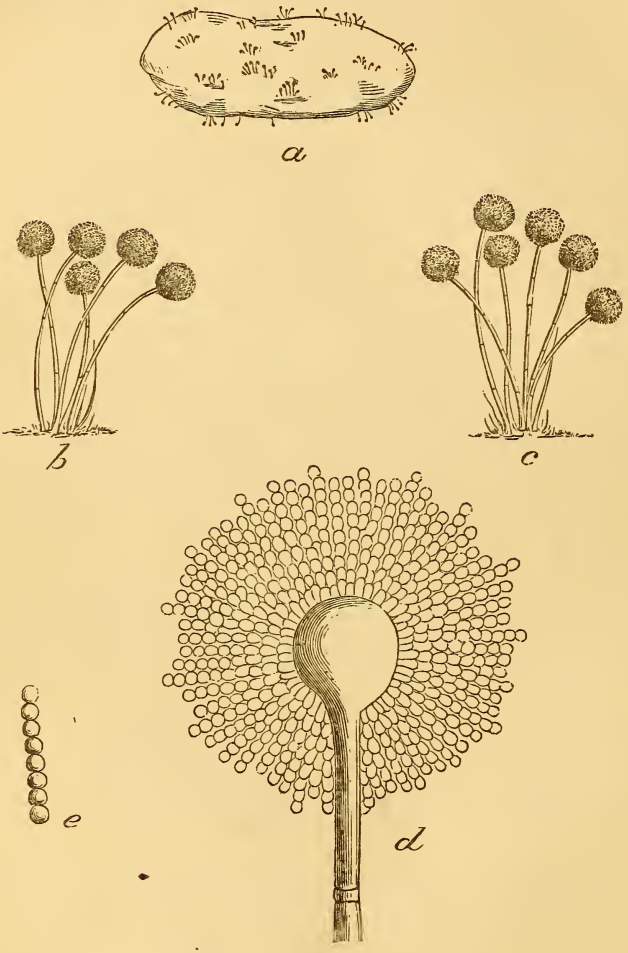
I do not know of any work on this subject that contains a more exhaustive view of the question, and of forestry in all its bearings, than that of Prof. George P. Marsh, our present minister at Rome, entitled "The Earth as Modified by the Action of Man." He, after a very thorough statement and analyzation of facts, concludes that "We cannot positively affirm that the total annual quantity of rain is diminished or increased by the destruction of woods, though both the theoretical considerations and the balance of testimony strongly favor the opinion that more rain falls in wooded than in open countries."

The Academy of Sciences in Vienna has issued a circular calling attention to the fact that for several years a diminution of water in the Danube, and other great rivers, has been observed, and inviting other countries to investigate and report upon any similar facts. A commission has been appointed in Austria for the same purpose, and the unanimous opinion of these scientists is said to be, that the first cause of the injurious decrease of water is due to the devastation of the forests.

The truth of this opinion cannot be controverted, but it leaves the question an open one: Do the forests produce the water, or do they only preserve it?

The Garden, a weekly journal published in England, in its number of November 20, 1875, contains the following: "We have occasionally furnished facts as to the question of the influence of forests on rain, all of which, when accurately recorded, tend to show the influence to be very slight at best. Walker's Statistical Atlas states that the magnificent forests found from Minnesota to Maine have a rain-fall precisely identical with that of the nearly treeless prairies which extend westward from Chicago."

While in reply to your letter of inquiry I have expressed my own decided conviction, that forests do not conduce to increase the amount of rain-fall, I have shown you that



(ASPERGILLUS (glaucus L.)

a Nat. size. *b* and *c* Threads magnified.
d Capitulum in section x 500. *e* Spores x 500.
On bread, &c.

the question is open to further investigation; and I desire to enforce the idea of the great necessity for the continuous planting of forest-trees as a protection to the farmer, and his products and material for the mechanic.

Respectfully,

FRED'K WATTS,
Commissioner of Agriculture.

G. W. BARNES, Esq.,
President of the San Diego Society of Natural History.

MICROSCOPIC OBSERVATIONS.

BY THOMAS TAYLOR, MICROSCOPIST.

Aspergillus Micheli.—A genus of Mucedines (Hyphomycetous Fungi) forming common molds, such as the blue of cheese. I have found frequently on moldy cheese in combination with *aspergillus*, *penicillium glaucum*. *Aspergillus* has been found to produce a secondary form of fruit, being that forming the subject of the genus *eurotium*. The accompanying illustration is from an original drawing by M. C. Cook.

FACTS FROM VARIOUS SOURCES.

COTTON-MANUFACTURING IN THE UNITED STATES.—It is gratifying to observe the steady progress of cotton-manufacturing in this country, and especially in the South. The location and exclusive conduct of the business in one corner of the country, and the insane refusal of the cotton section in the past to use its magnificent opportunities to share in the profits of manufacturing, while growling at those who use their facilities even at comparative disadvantage, is a thing of the past, on a par with the practice of importing from other States horses to cultivate cotton, and oats and hay to feed the horses, while half the labor of early summer is spent in killing *grass* in the cotton-fields.

This Department has labored for years to induce the South to make yarns and coarse cottons to the extent of one-third of the crop, part with another third for the finer fabrics made in the North, (eventually this distinction may disappear,) and leave only a third instead of more than two-thirds for foreign consumption. The largest profits now enjoyed in cotton-manufacturing are realized in the South, and there is abundant capital North and South, skilled artisans obtainable for prompt initiation of the abundant and needy home-supply of material for efficient and cheap labor. Only the inertia of southern habits and timidity of northern capital prevent. Let such a result be attained and we shall hear no grumbling about unremunerative prices for cotton, lack of employment for labor, or wholesale purchase abroad of the bulky raw products of agriculture; and the time would not be long ere the annual products of industry in the South would reach the value of *five* dollars for every *one* now produced, and heavy exports of manufactured cotton would be made to every country in the world, including England.

The number of spindles reported in operation in the South in 1869 was 225,063, increased to 262,221 in 1874, and to 481,821 in 1875. The quantity of cotton used has reached 67,733,140 pounds, about 3¼ per cent. of the amount produced. The following is the record of home

manufacturing, as prepared by the secretary of the Manufacturers' Association and published in the Financial Chronicle:

	Number of mills.	Number of spindles.	Average size of yarn.	Average running time.	Average consumption of cotton per spindle.	Quantity of cotton used.	Quantity of cotton used.
NORTHERN STATES.			*Number.*	*Weeks.*	*Pounds.*	*Pounds.*	*Bales.*
Maine	27	633,944	23.14	50.50	53.00	33,603,236	72,421
New Hampshire	36	815,709	22.66	50.22	70.25	57,326,126	123,535
Vermont	10	46,344	29.55	50.54	51.51	2,372,420	5,513
Massachusetts	206	3,775,634	28.69	46.17	55.33	208,894,352	450,204
Rhode Island	129	1,438,479	33.88	48.00	42.69	61,409,470	132,348
Connecticut	108	889,784	30.66	47.25	51.12	45,492,513	98,044
New York	60	615,205	36.38	49.65	46.30	28,473,469	61,365
New Jersey	22	178,928	29.13	50.83	57.62	10,114,300	21,798
Pennsylvania	60	451,900	18.07	43.62	69.85	31,572,305	68,044
Delaware	8	48,276	23.17	52.00	69.96	3,358,162	7,246
Maryland	20	127,352	11.05	47.88	168.25	21,368,020	46,052
Ohio	4	13,000	8.00	43.50	135.69	1,764,000	3,802
Indiana	4	22,088	15.70	48.55	141.70	3,261,240	7,029
Total North	694	9,057,543	28.42	47.52	56.25	509,009,613	1,097,001
SOUTHERN STATES.							
Alabama	14	58,480	12.75	45.50	114.51	6,756,170	14,561
Arkansas	2	1,781	10.38	46.34	73.56	132,400	285
Georgia	47	131,340	12.87	46.35	177.39	23,299,303	50,214
Kentucky	3	9,514	6.92	50.45	254.40	2,420,362	5,216
Louisiana	3	2,260	8.50	50.00	315.50	713,033	1,537
Mississippi	9	18,256	11.07	46.00	110.60	1,990,800	4,291
Missouri	3	19,700	11.85	46.05	140.52	2,810,485	5,057
North Carolina	31	54,500	11.28	43.97	121.72	6,694,641	14,428
South Carolina	18	70,282	14.00	51.15	137.57	9,671,028	19,945
Tennessee	40	55,384	11.66	43.17	121.85	6,701,718	14,443
Texas	2	5,700	12.00	50.63	172.34	982,365	2,117
Virginia	9	54,624	15.22	51.63	115.85	5,560,835	11,981
Total South	181	481,821	12.67	49.07	140.57	67,733,140	145,079
RECAPITULATION.							
Total North	694	9,057,543	28.42	47.52	56.25	509,009,613	1,097,001
Total South	181	481,821	12.67	49.07	140.57	67,733,140	145,079
Grand total	875	9,539,364	27.60	47.60	60.46	576,742,753	1,242,080

For the sake of comparison, the figures for previous years are given:

	Spindles.	Yarn, average.	Average per spindle.	Total consumption.	
				Pounds.	Bales.
1875.					
North	9,057,543	28.42	56.25	509,009,613	1,097,001
South	481,821	12.67	140.57	67,733,140	145,079
Total 1875	9,539,364	27.60	60.46	576,742,753	1,242,080
1874.					
North	8,927,754	28.56	56.86	507,790,099	1,094,387
South	487,629	12.5	122.53	59,793,774	128,526
Total 1874	9,415,383	27.73	60.29	567,583,873	1,222,913
1870.					
North	6,851,779	28⅞	50.87	.....	.....
South	262,221	12¼	124.23	.....	.....
Total 1870	7,114,000	28⅜	52.93	.....	.....
1869.					
North	6,538,494	28	60.70	.....	.....
South	225,063	12⅝	138.12	.....	.....
Total 1869	6,763,557	27⅓	64.88	.....	.....

INSURANCE OF CROPS.—The insurance of farm-buildings is never omitted by prudent farmers. Protection against losses of farm-animals by disease or accident has long been practiced abroad and is a usage introduced into this country. The insurance of crops against losses by unfavorable meteorological conditions, floods, insects, &c., may be to some a new idea, but it is an old custom, having been practiced in China, as is stated, for ages; and it is even beginning to claim attention in this country. Insurances are effected on the mutual plan of the fire fire-insurance companies, securing against heavy losses by the payment of annual premiums, not full crops, or even average crops, but a moderate return that would save the farmer from disaster. The idea is at present interesting the rural mind.

ILLINOIS STATE DAIRYMEN'S ASSOCIATION.—At the late annual meeting of the Illinois Dairymen's Association, strong ground was taken against the manufacture of cheese from skimmed or partly-skimmed milk. Mr. Wanzer, of Elgin, a prominent manufacturer, who has heretofore to a large extent made butter and cheese from the same milk, stated his convictions that such a course was not for the best interests of makers and patrons; the odors consequent on cheese-making affected the quality of the butter; and, in the end, other things being equal, the factory would reap the most profit by devoting itself either to butter or to cheese alone. The association adopted a resolution to the effect that the making skimmed or partly skimmed cheese is detrimental to the dairy business, giving facilities to dishonest sellers for imposing inferior goods on consumers in place of finer qualities, and leading to a general depreciation in reputation of cheese coming from regions where skimming is prevalent. It was also resolved to petition the legislature to enact a law requiring manufacturers to brand their cheese according to its character; that is to say, whether from skimmed, partly skimmed, or whole milk; the name of the maker to be stamped on the cheese.

We find in the secretary's report a tabular account of sales on the Elgin Dairy Board of Trade from March 2 to December 7, 1875, a condensation of which we here present:

Dates.	Cheese.			Butter.	
	Pounds.	Prices.		Pounds.	Prices.
		Lowest.	Highest.		Average.
March 2 to March 30	285, 582	$0 14	$0 15	57, 330	$0 37
April 20 to April 27	77, 074	10½	13	6, 150	37¼
May 4 to May 25	221, 734	9½	13	9, 000	35½
June 1 to June 29	485, 024	8	10	13, 000	32
July 6 to July 27	589, 137	9	10	12, 300	31
August 3 to August 31	458, 455	9	10¼	13, 900	33
September 7 to September 28	695, 620	9	10¼	23, 335	33
October 6 to October 26	566, 600	11	12¼	35, 800	35
November 2 to November 23	514, 950	11½	12¼	40, 600	36
December 7	76, 610	11	11½	13, 700	35
Total	3, 970, 786			225, 175	

REMEDY FOR SMUT IN WHEAT.—Our correspondent in Mora, New Mexico, reports that all the wheat in that county is much affected with smut. In many instances growers state that their crop was half smut. For two years he has tried, with excellent results, a preventive recommended by Mr. Pendaries, a native of Montauban, France, now residing in that locality. It is as follows:

For ten bushels of wheat, put sixteen ounces of blue vitriol in a boiler with ten gallons of water and heat thoroughly. This mixture is sprinkled, boiling hot, over the wheat, which is then gathered into a heap and left to absorb the mixture for one day. It is then spread out again and allowed to dry.

HOPEFUL SPRING PROSPECTS.—Under date of February 28, our correspondent in Dooly County, Georgia, reports that, owing to the mildness of the winter, there has been no occasion to shelter stock. Cattle and sheep are free from any prevailing disease, and 40 per cent. better in condition than a year ago. At that date planters were already putting in corn, which was something very unusual. He also states:

There is 30 per cent. more wheat sown than last year, and I never saw it look finer. I may also say, speaking accurately, that there is 50 per cent. more of oats sown. The low price of cotton has induced many planters to invest largely in grain, which is an omen of better times for Dooly County.

A NEW FORAGE-PLANT AND FERTILIZER.—A correspondent of the Georgia commissioner of agriculture calls his attention to a new forage-plant, which first appeared on a farm of forty acres in Liberty County, Georgia, owned by two freedmen, and was first noticed in 1871. It appeared to be a troublesome weed, springing up very thickly after the crops were laid by. It began to spread and soon covered every foot of uncultivated ground. It has since spread over a large surface, and has reached points several miles distant from its original point of development. But, so far from being a nuisance, as was at first suspected, it has proved a great boon to the worn-out lands of the South. It is relished by farm-animals, both in the green and the cured state. As a fertilizer its application in one case indicated qualities superior to stable-manure. A farmer plowed under two acres of this plant, and on an adjoining two acres a coating of stable-manure was spread. The first two acres produced twice as many bushels of corn as the second two. It is known as Mexican clover, and is a leguminous plant. In many localities it has driven out all other grasses. It seeds heavily, but is not an early grower; and hence it never gets in the way of young crops. The first light frost in the fall kills it.

SHEEP-HUSBANDRY IN OREGON.—The following is a condensed statement of facts respecting his own experience in growing sheep and wool in Oregon, communicated by our correspondent in Marion County, Mr. John Minto. He began to keep sheep in 1849, with good common stock from Missouri. In 1858 he crossed these with Southdowns. In 1860 he obtained thoroughbred Merinoes, partly from Vermont and partly from New South Wales. When received they averaged 6 pounds per fleece, of very fine unwashed wool. The average per fleece of the Vermont Merino ewes was $8\frac{1}{2}$ pounds; of the rams, $11\frac{3}{4}$; ranging on grass and sheltered at night in the winter.

He says:

The average number of lambs saved per 100 ewes varies with the breed; with the common stock, 100 per cent. is a very fair result, though I have often saved more than that; with Southdowns, 120 per cent.; with Cotswold and Leicester, 100 per cent. when kept in small flocks; with Merinoes, 85 per cent. In my experience, all these breeds diminish the ratio of their increase as the flock is increased—the Merino in the least degree and the long-wools in the greatest. The percentage here given is what may be realized when sheep are a part of a system of mixed husbandry in Western Oregon, as I have conducted it. Under such circumstances, the cost of keeping on land worth $20 per acre does not vary much from $1 per head. Such land, devoted to sheep exclusively, I think would carry 3 per acre.

For the past four years my wool has sold at an average of 32 cents per pound. There is not much difference made in this market between that from common sheep and that from improved stock. Usually that of the latter commands 2 or 3 cents more, chiefly because those keeping up the improvement of their flocks are known generally to

have their wool-crop in good condition. The wool of Western Oregon, as a whole, always commands the highest price in the Pacific coast market.

The following is the account of my flock for 1874: From 262 sheep, 1,883 pounds of of wool, at 32 cents per pound, $602.64; 69 sheep sold for $1,608; cash income, $2,210.64. Increase of flock by lambs, 126; decrease by sale, 69; leaving the flock of 262 increased to 319. About one-half are thoroughbred Merino and the other half grades of common stock with a few Leicesters; 204 are ewes and ewe lambs; 49 wethers of various ages, such as were not deemed fit to keep for rams; and 66 rams of various ages. My chief income is from the sale of rams. Good grades as well as thoroughbreds are kept for that purpose, not because the former in value for use are to be compared with the latter, but because many beginners in wool-growing cannot at first see the economy of buying the latter, though they generally come to see it with experience. Sheep, as a rule, are kept on pastures or bush-lands the year round; their chief enemies being the dogs, the coyotes, and negligent owners.

IMPROVEMENT IN STOCK-GROWING.—*Texas, Bexar:* The Kansas trade will about clear the county of stock this spring. The stock interest in the county is undergoing a rapid change. Stockmen are fencing pastures and introducing the best bulls from Kentucky, Missouri, and Ohio for crossing with native cows.

RELATIVE VALUE OF VARIETIES OF COTTON.—M. S. A. Duke, of Drew County, Arkansas, reports to this Department the results of an experiment designed to ascertain the relative value of the Peeler, the Boyd, and the Dickson varieties of cotton. He divided a field of about three acres into three lots, and on each, accurately measured, planted one kind. The land was of the same quality except that perhaps the plat on which the Dickson variety was planted was slightly superior. The figures below express the rate per acre as deduced from the carefully-ascertained facts in each item. The prices per pound are those for which the products of the several varieties were sold in the New Orleans market.

Variety.	Seed-cotton.	Lint.	Per cent. of lint.	Value per pound.	Total value.	Cost of production.	Net profit.	Per cent. of profit on cost.
	Pounds.	*Pounds.*		*Cents.*	*Dollars.*			
Peeler	1,951	514.7	26.38	14½	74 12	$46 27	$28 36	61.27
Boyd	1,956	588.78	30.1	12½	72 12	46 24	25 88	56
Dickson	2,497	738.37	29.56	12½	90 45	54 66	35 79	65.5

The seed-cotton was weighed in the field by the pickers each day, and that weight is given. Mr. Duke says:

Had the first picking been thoroughly dried before weighing, it would have made some difference in the percentage of lint. On the first picking the average per cent. of lint of the three varieties was 27.33, while the last picking was 32.67, or an average on the whole crop of 30 per cent. of lint. If the weight of bagging and ties were included, which is always done in commercial transactions, the average per cent. of commercial cotton is 32.

The greater cost in producing the Dickson cotton arises from the greater quantity to be picked, the price of picking being $1 for every 100 pounds of seed-cotton.

IMPROVEMENT IN THE CARE OF STOCK.—*Georgia, Harris:* The great difficulty here is in carrying stock through the winter and procuring rough food for them. Unusual attention is now paid to grazing-lots and shelters for stock, and more grain has been sown than ever before.

BAD FARMING.—*Mississippi, Lowndes:* This county has been importing corn, wheat, meat, mules, and horses for the last nine years. Cotton has been the specialty. No stock of any kind, worth mentioning, has been raised. The low price of cotton and high price of provisions will force

planters to pursue a different course in future. We hope for a great improvement in the development of our resources, including a diversity of crops and an improved system of agriculture.

GOOD FARMING.—*Kansas, Dickinson:* During the last three years some first-class stallions have been introduced, and the result is satisfactory. There has been the greatest improvement among cattle and milch-cows. Texas cattle are rapidly disappearing and short-horns are rapidly increasing. The few farmers raising sheep are introducing Cotswold, Shropshire, and Southdown rams, thus producing longer and closer wool. The finer breeds of hogs, such as Poland China, Magee, and Chester Whites, are abundant here.

INDUSTRIES OF BUFFALO COUNTY, WISCONSIN.—The following is a condensed statement of facts reported to the Department by Mr. William Myer, secretary of a farmers' club at Nelson. The farm-products of the county and the numbers of farm-stock in 1875 were as follows:

Kinds.	Acres.	Bushels per acre.	Total.	Stock.	Numbers.
Corn	8,125	12	97,500	Cattle	15,218
Wheat	41,334	21	868,014	Horses	4,190
Oats	10,532	50	526,600	Mules	198
Barley	791⅓	30	23,745	Sheep	8,252
Rye	354	18	6,372	Hogs	6,389

The corn-crop was greatly reduced by an early frost—a rare occurrence. There were also cultivated about 1,000 acres of potatoes, yielding 75 bushels per acre, and 14½ acres of hops, yielding 800 pounds per acre. The average value of farm-lands per acre is $9.20. The county, lying on the banks of the Mississippi, with Chippewa River on the northwest, Beef river through the center, and Trempeleau Mountain river on the southeast, is well watered. Its numerous brooks are filled with speckled trout. The soil is generally good, and on the hills and bluffs timber of excellent quality abounds. The manufacture of lumber is extensively carried on, the Alma Company alone employing 300 hands. Mr. Myer says:

Buffalo County raises the best wheat for milling produced in the Northwest. Its markets are good, and its farmers are prosperous and happy. As the streams afford abundant water-power, the county offers great inducements to manufacturers of all kinds.

THE OSIER-WILLOW, (*Silex viminalis.*)—In our Annual Report for 1873, page 254, is a communication from Mr. E. Ware Sylvester, respecting a rising industry in the culture of this plant, for economic purposes, in Onondaga County, New York. The first experiments gave promise of complete success in the culture, with very profitable results, the net profit being $80 per acre. But in the summer of 1873 a variety of the saw-fly worm (*Nematus ventricosus*) ruined promising crops on Mr. Sylvester's plantation of 15 acres, in Lyons, and on a plantation of 60 acres near Syracuse. White hellebore was found effectual for destroying the worms to which it was actually applied, but not for exterminating the ever-multiplying swarms which came to replace them. In a communication to the Department, dated November 11, 1875, Mr. Sylvester writes:

I am happy to inform you that the worms have decreased yearly, until there were so few last summer that less than a day's work of one hand, with a bellows loaded with hellebore, sufficed to destroy them. I have a good crop of willows, which I am now cutting and delivering, unpeeled at the railroad, one mile distant, on a contract at $18

per ton. So far as we can judge, the worm has been mainly destroyed by natural causes, and we have every reason to hope that its absence will be permanent. If so, the energy of our people will be directed to the growth of willows, and in a few years we shall save to the country the hundreds of thousands of dollars in gold now annually sent abroad for willows and willow-ware.

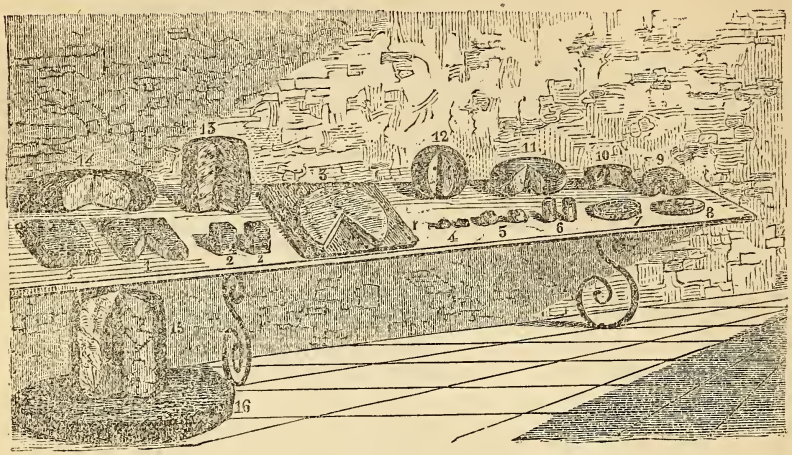
BEEF PRODUCTION IN NEW MEXICO.—Agricultural industries, which bring with them homes, cultivation, mechanic arts, schools, and churches, in place of unpopulated prairies, are gradually banishing cattle-growing on the former vast scale from Texas. The following are among other indications that the business, with very remunerative inducements, is advancing into New Mexico, where it will also become the pioneer of other agricultural industries. It is reported that, five years ago, Messrs. Lacy, Coleman, and Allison imported into Colfax County cattle, principally from Texas, amounting in value to $14,000. Since then they have sold off about $40,000 worth, and have remaining about 7,000 cattle, averaging in value $18 per head, aggregating $126,000, or $14,000 converted into $166,000 in five years. It is further reported that in the Vermejo district of the county alone, there are now 25,000 cattle of pure and mixed breeds, and the number is constantly increasing.

CONTENTS OF A TIERCE.—In response to a letter from the Commissioner, S. H. Grant, esq., superintendent of the New York Produce Exchange, states that the tierce in which salt meat is packed is about the same as the wine-measure tierce of 42 gallons, being 32 inches long, with heads 20 or 21 inches in diameter; the standard weight of beef packed in a tierce is 304 pounds. Charles Reynolds, esq., secretary of the Chicago Board of Trade, states that under the regulations of that board a tierce for packing meat is either 32 inches long, with heads 21 inches in diameter, or 33 inches long, with heads 20½ inches in diameter. For pork or beef hams the standard contents of the tierce are 300 pounds; of mess or India beef, 304 pounds; of lard, 320 pounds.

SMALL CHEESES.—The immense size of our factory Cheddars, and the uniformly large cheeses of private dairies, answer well for cutting by market retailers and in retail groceries of large trade, but are far from convenient for family use. The purchase of cheese in pound-slices, at 20 to 25 cents for a fair to prime article, is unnecessarily expensive, almost to the prohibitive point in its effect upon consumption. In this country the small pine-apple cheese is made to a limited extent, and sold at high prices. The comparatively small Holdridge cheeses, rectangular in shape, and weighing 10 to 15 pounds, though not extensively made, command a remunerative price. A few imitations of small German cheeses sell at higher prices than the regulation factory-pattern of 60 to 70 pounds. It would prove a positive advantage, both to housekeepers and cheese manufacturers, if the fashion could be set for small cheeses. The Stilton and other small cheeses, convenient to place upon the table, are far more common in England; and in some of the continental countries of Europe small cheeses are the rule rather than the exception.

At the *Concours Agricole*, at the Palace of Industry in Paris, in progress from the 12th to the 16th of February last, the exhibition of cheese included a large number of forms, of kinds some of which are well known to epicures of this country. An engraving of sixteen of these forms will give an idea of the great diversity and shape, and may furnish a hint to the cheese-makers of this country who feel inclined to cater for the supply of a manifest need. Among these are included the well-known cheese of Neufchatel, Brie, Gruyere, and Roquefort; cheese in tile-form, paving-blocks, flat, and various irregular forms;

cheese of milk of cows and of goats, of all degrees of richness, and of various modes of manufacture. The following is a list of the cheeses



delineated in the cut: 1. Maroilles en tuile de Flandre.—2. Maroilles en pavé.—3. Brie.—4. Fromage de chèvre raffiné.—5. Le même, frais.—6. Neufchâtel raffiné.—7. Mont d'Or.—8. Camembert.—9. Livarot.—10. Roquefort.—11. Fromage d'Edam.—12. Tête de mort.—13. Chester.—14. Fromage de Gex.—15. Fourme d'Auvergne.—16. Fromage de Gruyère.

ENGLISH EMIGRATION STATISTICS.—The statistical and commercial department of the British Board of Trade has issued a return, showing that the total number of emigrants, native and foreign, that left British ports during 1875 was 173,809, a decrease of 67,205 from the aggregate of 1874. Of this number 84,540, or 48 per cent., were English, showing a decline of 31,950 from 1874; 14,686, or about 8½ per cent., were Scotch, a decline of 5,600 from the previous year; 41,449, or 23 per cent., were Irish, a decrease of 19,047; 31,347, or 18 per cent., were foreigners in transit, a loss of 7,118; the number undistinguished was 1,787, against 5,277 the previous year.

Of the grand aggregate of 173,809 persons, 105,046, or 60 per cent., were destined to the United States, against 61½ per cent. in 1874. This quota was composed as follows: English, 43,867; Scotch, 5,893; Irish, 31,433; foreigners, 23,028; undistinguished, 825; being 52 per cent. of the English emigration, 40 per cent. of the Scotch, 75 per cent. of the Irish, 73 per cent. of the foreign, and 49 per cent. of the undistinguished.

British North America received 17,378, or 10 per cent. of the whole, against 10½ per cent. in 1874, including 9,044 English, 1,871 Scotch, 1,391 Irish, 5,016 foreigners, and 56 undistinguished; being 10½ per cent. of the total English emigration, 13 per cent. of the Scotch, 3½ per cent. of the Irish, and 16 per cent. of the foreign.

The Australian colonies received 35,525, or 20 per cent., against 22⅓ per cent. in 1874, including 20,749 English, 5,750 Scotch, 8,251 Irish, 767 foreigners, and 8 not distinguished; being 24½ per cent. of the English emigrants, 40 per cent. of the Scotch, 50 per cent. of the Irish, and 2½ per cent. of the foreign. The remainder went to other countries, and constituted an increased per cent. of the whole.

BRITISH AGRICULTURAL STATISTICS OF 1875.—The area in wheat declined last year nearly 10 per cent., and the proportion of wheat to all cereals declined from 38.5 to 35.4 per cent. The proportion in barley increased from 24.3 to 26.5 per cent.; and the increase in oats was from 27.5 to 28.2 per cent. There was an increase in cereal (corn) crops over the previous year of 20,170 acres, or less than a fourth of 1 per cent.; and in green crops, of 82,837, or over 2 per cent.

In the following table the figures for Wales are excluded in the total for Great Britain, as also are those for the Isle of Man and the Channel Islands. The total corn-crops of Wales, cover 512,178 acres, instead of 516,001, and 13,085 acres of green crops, instead of 13,956, a small decline in both. In the former class the order of prominence is oats, barley, wheat, pease, beans, rye.

Crops.	Year.	England.		Scotland.		Ireland.		Great Britain.	
		Acres.	Proportions of each kind.	Acres.	Proportions of each kind.	Acres.	Proportions of each kind.	Acres.	Proportions of each kind.
CORN CROPS.									
Wheat	1874	3,391,440	45.2	120,991	8.6	188,711	9.9	3,630,300	38.5
	1875	3,128,547	41.5	102,137	7.2	161,321	8.4	3,342,481	35.4
Barley or bere	1874	1,889,722	25.2	245,840	17.5	212,230	11.2	2,287,987	24.3
	1875	2,090,423	27.8	264,834	18.8	234,569	12.2	2,509,701	26.5
Oats	1874	1,356,793	18.1	1,004,024	71.2	1,480,186	77.8	2,596,384	27.5
	1875	1,421,951	18.9	1,004,888	71.2	1,499,371	78.3	2,664,009	28.2
Rye	1874	36,484	.5	9,013	.6	8,979	.5	47,228	.5
	1875	43,544	.6	9,766	.7	9,556	.5	54,903	.6
Beans	1874	526,561	7.0	28,792	2.0	9,646	.5	559,044	5.9
	1875	533,455	7.1	27,328	1.9	9,970	.5	564,181	6.0
Pease	1874	303,966	4.0	1,823	.1	1,756	.1	310,547	3.3
	1875	310,623	4.1	1,976	.2	1,677	.1	316,375	3.3
Total	1874	7,505,076	100.0	1,410,413	100.0	1,901,508	100.0	9,431,490	100.0
	1875	7,528,543	100.0	1,410,929	100.0	1,916,393	100.0	9,451,650	100.0
GREEN CROPS.									
Potatoes	1874	314,571	11.4	160,480	23.4	892,421	65.9	520,430	14.5
	1875	320,477	11.2	157,671	23.0	900,277	65.7	522,653	14.3
Turnips and swedes	1874	1,560,857	56.5	501,636	73.2	333,487	24.7	2,133,336	59.6
	1875	1,569,049	55.1	503,323	73.5	332,783	24.3	2,142,695	58.5
Mangel	1874	314,683	11.4	1,610	.2	98,161	2.8	322,614	9.0
	1875	352,198	12.4	2,158	.3	43,172	3.2	361,617	9.8
Carrots	1874	12,714	.4	874	.1	3,359	.3	13,927	.4
	1875	13,591	.5	984	.2	3,303	.2	14,936	.4
Cabbage, kale, rabi, and rape.	1874	163,081	5.9	5,227	.8	41,105	3.0	169,285	4.7
	1875	183,402	6.4	5,094	.8	41,896	3.1	189,733	5.2
Vetches, lucerne, and any other green crop, except clover or grass.	1874	398,276	14.4	15,305	2.3	44,829	3.3	421,678	11.8
	1875	409,756	14.4	15,319	2.2	48,655	3.5	432,470	11.8
Total	1874	2,764,182	100.0	685,132	100.0	1,353,362	100.0	3,581,270	100.0
	1875	2,848,473	100.0	684,549	100.0	1,370,086	100.0	3,664,107	100.0

STEAM-CULTURE.—According to the reports of the Royal Agricultural Society of England, 161 pounds of coal will raise into steam 115 gallons of water, a power sufficient for the cultivation of one acre. One pound of coal will evaporate 7 pounds of water and move 9.3 tons of earth, and a cwt. of coal will move 1,000 tons of earth, a power sufficient for

the plowing of 100 acres. The great practical question is the utilization of this power. A variety of steam-plows have been invented, but all have yet failed to economize and apply the force generated. In England, at the great trial at Wolverhampton, under the auspices of the Royal Agricultural Society, it was estimated that 30 per cent. of the power generated was lost, yet even this leaves steam-power cheaper than horse-power.

FARM-PROFITS.—A correspondent of the Norwich (England) Gazette was taken to task by a farmer for having estimated the average profits of English farming at 17½ per cent. He replied, "You farm 120 acres of land at a cost of £1,000?" "Yes." "Your living costs you £150 per annum, and you save something beside?" "Yes." "Well, there is 15 per cent. on your outlay." Another interlocutor confessed to a return of 18 per cent. on £2,000, his outlay in taking 250 acres.

FATTENING FARM-ANIMALS.—The Agricultural Gazette is of opinion that in England "all plans for feeding which aim at the economical production of meat will be every year more followed and appreciated; and that a good system for pulping roots in the field for fattening sheep must be included among such useful plans." The cost of fattening cattle is variously stated. A few years ago 7 or 8 shillings per week was thought to be sufficient to cover the cost of fattening a bullock, but the weight of opinion indicates that such cost has been enhanced in late years 50 or 60 per cent. One experiment with 14 calves, fed fifty-six weeks, is given, showing an average cost of 10*s.* per head per week, while the average return was 12*s.* 3*d.*, besides their droppings. The Gazette recommends an average weekly ration of 28 pounds of linseed cake and 42 pounds of meal, amounting, at 1¼*d.* per pound, to 7*s.* 3½*d.*; 3½ cwt. of roots, at 3*d.*, 10½*d.*; 3 stone of hay, at 9*d.*, 2*s.* 3*d.*; 15 per cent. per annum for interest and risk on £22, value per bullock, for 13 weeks, 1*s.* 3*d.*; labor, allowing each bullock one-fortieth part of a good man's weekly wages of 16*s.*, 5*d.*—total, 12*s.* 1*d.* If bullocks can be made to lay on 1½ stone or 21 pounds of beef per week, at 10*s.* per stone they are a profit; but it only increasing one stone per week, there will be a loss. The diet above recommended it is thought will make the yield somewhere between 14 and 21 pounds per week.

FRUIT-CULTURE IN ENGLAND.—At a late meeting of the Institution of Surveyors, Mr. G. Webb read a paper showing that the returns of 1874 present an area in fruit-culture, in England, of 145,622 acres, not including gardens. The largest county acreages are: in Devon, 24,312; in Hereford, 21,534; in Somerset, 19,857; in Worcester, 13,390; in Gloucester, 11,152; in Kent, 11,186; in Cornwall, 4,180; the other counties have less than 4,000 acres each.

Mr. Webb prefers an eastern exposure, for the reason that the gradual contact of the sunbeams with the trees is more advantageous to the fruit-bloom. Shelter on the southwest is desirable, either by a high quick hedge or a belt of larch, against the gales from that quarter. Among the finest varieties of fruit is mentioned the Chaumontel pear, which grows to especial excellence on the island of Jersey, and commands a shilling each. They also do well in Kent, at an altitude of not over 100 feet above sea-level; at 300 feet it is no better than a turnip. The Williams, Beurré Base, and Copiamont are favorites; while the showy Buerré d'Amaulis, Colmar d'Été, and Gratioli are but little regarded. The Keswick Codlin apple formerly sold well, but has become too plentiful, and hardly pays expenses. The Bigarreau and Dulce cherries flourish at from 30 to 200 feet above sea-level; Black

Heart, Kentish, and Turkey Hearts do fairly up to 400 feet; but beyond this the crop becomes precarious and the fruit indifferent. Apples have been grown to the extent of 500 bushels per acre. Small fruit has also been financially successful, especially the gooseberry and the raspberry.

FRENCH WINE-CROP OF 1875.—The French wine-crop has turned out greater than even the large statements of it hitherto. The Moniteur Vinicole gives the aggregate at 83,632,391 hectoliters, (2,209,381,398 gallons.) This is the largest yield ever realized, the next largest, that of 1874, being 78,124,424 hectoliters, or 2,063,875,408 gallons. In some parts of the field the dreaded *Phylloxera* still continues its ravages, and no specific remedy has yet been discovered. The insect has attacked the young vines planted to replace the old ones destroyed. The departments of Vaucluse and Gard have especially suffered from this cause. Vaucluse ten years ago produced nearly 80,000,000 gallons; in 1875 less than 2,000,000. In the department of Gard the yield has fallen from 105,671,200 gallons to about 25,000,000. The products of the different departments in 1875 are stated as follows: Ain, 20,557,882 gallons; Aisne, 6,071,603 gallons; Allier, 13,519,309; Alpes, (Basses,) 3,207,886; Alpes, (Hautes,) 2,841,408; Alpes Maritimes, 2,218,223; Ardèche, 5,823,434; Ardennes, 1,260,129; Ariége, 4,112,935; Aube, 38,829,754; Aude, 98,249,093; Aveyron, 16,314,852; Bouches-du-Rhone, 7,637,174; Cantal, 475,653; Charente, 143,716,413; Charente-Inférieure, 229,685,177; Cher, 19,432,036; Corrèze, 10,130,804; Côte-d'Or, 55,181,870; Creuse, 6,816; Dordogne, 35,597,932; Doubs, 14,128,952; Drôme, 6,262,286; Eure, 668,370; Eure-et-Loire, 2,183,062; Gard, 24,937,505; Garonne, (Haute,) 28,478,468; Gers, 31,570,143; Gironde, 139,472,775; Hérault, 248,940,028; Ille-et-Vilain, 20,474; Indre, 15,504,078; Indre-et-Loire, 57,355,316; Isère, 23,010,476; Jura, 22,432,041; Landes, 10,233,675; Loir-et-Cher, 52,029,751; Loire, 11,714,366; Loire, (Haute,) 2,649,616; Loire Inférieure, 69,624,085; Loiret, 40,030,205; Lot, 15,632,205; Lot-et-Garonne, 36,820,129; Lozère, 184,291; Maine-et-Loire, 20,723,702; Marne, 26,080,788; Marne, (Haute,) 31,437,182; Mayenne, 14,794; Meurthe et Moselle, 39,200,791; Meuse, 21,285,349; Morbihan, 556,940; Nièvre, 15,621,294; Oise, 229,465; Puy-de-Dôme, 34,369,479; Pyrénées, (Basses,) 4,207,603; Pyrénées, (Hautes,) 3,928,986; Pyrénées Orientales, 38,363,216; Rhone, 34,181,541; Saone, (Haute,) 25,531,826; Saone-et-Loire, 58,669,552; Sarthe, 5,015,868; Savoie, 7,388,055; Savoie, (Haute,) 5,199,578; Seine, 1,640,206; Seine-et-Marne, 17,547,363; Seine-et-Oise, 10,914,646; Sèvres, (Deux,) 13,752,578; Tarn, 22,386,180; Tarn-et-Garonne, 12,069,685; Var, 37,084,093; Vaucluse, 1,802,222; Vendée, 26,840,009; Vienne, 40,607,713; Vienne, (Haute,) 640,446; Vosges, 8,469,706; Yonne, 75,832,374. At least thirty-seven of these departments exceed the average annual yield in the United States; some of them amount to sixty times our annual yield.

FRENCH SUGAR-PRODUCTION.—From statistics published in *le Journal Officiel* it appears that during the year ending with October 31, 1875, the number of beet-sugar factories in operation was 523, against 514 the previous year; the number inactive was 6, against 10 the previous year. The juice defecated amounted to 26,000,000 hectoliters, (686,862,800 gallons,) against 21,500,000 hectoliters (567,982,700 gallons) last year. The density of the juice was 3°.8, against 3°.9, and the yield 137,000,000 kilograms, (302,048,969 pounds,) against 118,000,000 kilograms, (260,158,966 pounds.) The export of raw sugar declined from 41,000,000 kilograms (90,394,217 pounds) to 20,000,000 kilograms,

(44,094,740 pounds,) leaving the stock on hand about the same as last year, or 22,000,000 kilograms, (48,504,214 pounds.) White pulverized sugar constitutes 56 per cent. of the entire manufacture, against 53 per cent. in 1874. The statistics of 1875 show a rapid working of the raw material, a great abundance of roots, but a depressed yield of the per cent. of sugar, a greatly decreased export of raw sugar, and an increased export of the refined article. Later statistics show that for the three months closing with January the amount defecated was 919,386,147 pounds, against 765,094,496 during the same period of the previous year. The density of juice was 3.6, against 3.8 the previous year. The export amounted to 178,119,144 pounds, a falling off of 104,846,080 pounds compared with the same period in the previous year.

FRENCH AGRICULTURAL EXPORTS.—During the first ten months of 1875 the value of French wines exported amounted to 219,253,000 francs, an increase of 24,224,000 francs over the same period of 1874; cereals, 196,539,000 francs, an increase of 101,000,000 francs; brandy, 67,804,000 francs, an increase of 9,976,000 francs; eggs, 41,088,000, an increase of 7,611,000 francs; brown sugar, 39,298,000 francs, an increase of 9,398 francs. Butter alone shows a decrease, having declined from 69,969,000 francs in 1874 to 68,206,000 in 1875.

WOLVES IN FRANCE.—M. Buffet, minister of the interior, lately issued a circular to the prefects of several departments of France, reciting that complaints have reached the central government of the destruction of sheep by wolves in several quarters. In one case a farmer had lost 100 out of a flock of 397. The attention of the mayors was called to the laws authorizing the killing of destructive animals. The departmental officers are authorized to concert with forest-agents, and with lieutenants of wolf-hunting trains, arrangements for general battues. The object of the present circular is to arouse the zeal of the rural officials in a crusade against these enemies of the farmer, and to secure the immunity of sheep-husbandry.

FRENCH WHEAT CROPS.—The French minister of agriculture has authorized the publication of statistics in regard to the wheat-crops from 1815 to 1874. In 1820 the total production was 125,850,846 bushels, and the consumption 153,105,709, including the amount necessary for seeding at the rate of 2.64 bushels per acre. This left a deficiency of 27,254,863 bushels. In 1830 the production amounted to 149,786,827 bushels, and the consumption to 162,859,073 bushels, leaving a deficit of 12,072,246 bushels. In 1840 the production was 229,524,104 bushels, and the consumption 190,907,418 bushels, showing a surplus of 28,616,686 bushels. In 1850 the production amounted to 249,691,233 bushels, and the consumption to 221,711,270, a surplus of 27,979,763 bushels. In 1860 the production was 288,247,664 bushels, the consumption 241,985,945 bushels, and the surplus 46,261,719 bushels. In 1869 the production was 306,381,698 bushels, the consumption 274,252,689 bushels, and the surplus 32,066,009 bushels. In 1874 the production was 377,799,440 bushels, the consumption 269,235,158 bushels, and the surplus 108,564,282 bushels. These figures, however, do not coincide with the exports and imports of wheat in each of the years. In some cases a large surplus or a large deficit was left over, and its effect upon the markets was felt in the aggregates of the following years. The Franco-Prussian war in 1870 prevented the regular tabulation of agricultural statistics, and the figures of 1869 are given instead. Of fifty-three years in the period embraced in these statistics, forty years show an excess of production, and the following a deficit, viz: 1820, 1822, 1827, 1830,

1831, 1839, 1846, 1853, 1855, 1861, 1866, 1867, 1871, 1873. The exports exceeded the imports in 1833, 1834, 1835, 1836, 1837, 1838, 1840, 1841, 1848, 1849, 1850, 1851, 1852, 1858, 1859, 1860, 1864, 1865, and 1866. In the remaining years the imports exceeded the exports. Similar statistics in regard to other crops will soon be published by authority of the minister of agriculture.

CIDER FROM APPLES AND SUGAR-BEETS.—S. Paillart, a French farmer, gives the following details of the method of making cider, in France, with apples and sugar-beets mixed: To each hectoliter (2.83782 bushels) of apples, heaping measure, add 3 kilograms (6.614211 pounds) of red sugar-beets, the edible variety. The sugar-beets are first cut into pieces and then pressed with the apples. Pour into the vessel enough water to cover the pulp, and let it stand forty-eight hours; then subject the pulp to the action of the press. The pulp is then taken out, crumbed with the hands, replaced in the tub, and again covered with water for thirty-six hours, after which they are again pressed. This process is repeated two or three times. The cider is then placed in the cellar and not used till July or August, when the crude taste of the sugar-beet will have been eliminated. M. Paillart saved 200 francs in manufacturing 25 liquid hectoliters (each 26.4178 gallons) of cider in 1872, apples being at the rate of 10 francs per hectoliter, (dry measure.) In 1873 and 1874 the saving was but half as great.

A PRIZE-FARM IN NORMANDY.—At the late regional agricultural exhibition at Caen a premium was awarded to M. Cyrille Paynel, of the arrondissement of Lisieux, in the department of Calvados. M. Paynel works an estate of 196 hectares (484⅓ acres) in the valleys of the Vie and the Viette, divided into seven farms, for which he pays an aggregate annual rental of 42,000 francs. The farm-buildings are mostly situated upon the main farm and disposed in a large and nearly square area. The dwelling-house is on the east, and one of its large apartments at the north end has been appropriated to dairying. It is about 46 feet long and 17 feet wide, and is furnished along the walls and in the center with flag-stones laid in Portland cement, upon which, each day, may be cast 800 cheeses. The surface of these flags being inclined, the whey is drained through subterranean pipes into brick basins lined with Portland cement, outside the building. The water used in cleansing the flags and the pavement is also promptly drained, and every facility for perfect cleanliness is secured. A small car, invented by M. Paynel, gives easy transport to the milk-vessels. In the laundry adjoining the dairy a portable furnace furnishes hot water through pipes. Cold water is obtained through pipes from a brick basin containing over 100 gallons, supplied by a pump. To utilize as much as possible the surplus heat of the kitchen-fire, a small copper chamber, holding about 25 gallons, is built into the chimney and connected by pipes with the dairy. The drying-room, formerly a barn, is divided into four compartments: 1, the drying-room proper, in which straw, commonly used, is superseded by hurdles or sieves, of M. Paynel's invention, in which minute orifices through wire gauze give passage to air for drying; 2, the drying-cellar; 3, the finishing-cellar; 4, the packing and storing cellar.

On the west side of the area are two cider-presses with a reservoir of brick for fruit, containing about 14 hectoliters, or over 30 bushels. Another receptacle has been lately added so as to accommodate later fruit ripening before the early varieties have been ground into cider. The first reservoir is emptied in time to accommodate the latest ripening varieties, and thus the danger of rotting is mostly avoided.

On the south is a wagon shed; other buildings are ranged conveniently round the area. Behind the whole runs the little stream Viette, from which the farmer, by excavating about 200 cubic meters of earth, has secured a small pond, the surface of which is kept at a regulated level by means of a dam. A movable covered wash-house, by means of chains and pulleys, is kept at the surface of this pond. The area between the buildings is perfectly leveled.

About 48 hectares (118.56 acres) have been underdrained, with the happiest results; the drain-pipes vary from 3 to 6 feet deep, according to the depth and inclination of the clay substratum; the drains are from 22 to 100 feet apart, the intervals being mostly from 30 to 40 feet. The expense has ranged from 215 to 230 francs per hectare, or between $16 and $20 per acre.

Apple-trees, for cider, cover 23 hectares, or nearly 57 acres. Every four years the earth for half a yard around each tree is dug up and a cart-load of fresh rich earth deposited. During 15 years 1,064 apple-trees have been planted, each one being placed in a cubic meter of fresh earth deposited in the trench.

Meadows, properly so called, are not maintained on the estate. All the grass-lands are pastured up to the first week in May, when about 52 hectares (128½ acres) are reserved for mowing, and produce about 2,700 quintals (297½ tons) of hay. As the area mown is shifted each year, it covers the whole estate every three or four years. Rich earth from the river-bed is every summer scattered over the soil. Fermented manure is also freely dispensed during autumn, winter, and spring, a generous allotment being made to the young apple-trees. The manure is used in its fermenting stage in preference to well-rotted manure, because it is more active in its influence upon the soil, lasts longer, and, by aid of a slight covering of soil, may be made to cover three times as large a surface. Furthermore, the grass obtained from it is of good quality, succulent, better relished by milch-cows, and affords a richer quality of milk.

The live-stock maintained on the estate embraces 10 horses, 78 milch-cows, and 17 milch-cows of inferior character; 45 cows fattening for butchery, 20 calves and heifers equivalent to about 12 head of cattle, 30 beeves, and 12 hogs; total, 204 head. The milch-cows are of the *Augerone* and *Cotentine* varieties of the Norman breed. They are finely formed, in good condition, and admirably adapted to the soil upon which they graze. M. Paynel prefers the first variety, especially those from the banks of the Toucques and the Dive, two small streams emptying into the English Channel. Milch-cows are kept to the number of 40 or 50 from May 1 to September 15, and from 70 to 100 during the remainder of the year. The farmer raises from 18 to 20 choice heifers each year, and two bull calves. The other calves are sold when over eight days old. In November he purchases 15 or 20 cows, milks them until June, and sends them to the Villette market. Thirty beeves of the Cotentine breed, and 50 cows either of Norman or of Mancelle blood, crossed with the Durham, complete the herd. The cattle remain in pasture all winter, and are fed hay part of the year. The average weight of cows fully fattened is 325 kilograms, or 716½ pounds. The number of cows is increased in the latter part of the season on account of the fabrication of Camembert cheese, which lasts from September to April. The cows are regularly milked three times per day, at 4½ a. m., noon, and 6 p. m. Each farm overseer is furnished with a memorandum, upon which he inscribes the day on which each cow was placed in pasture, as well as the date of her removal. This

method secures a perfect record of the number of head of cattle kept, and the number of days of each head.

The butter and cheese, except the Camembert cheese, is sold at Saint Pierre on the Dive. The Camembert cheese was originated at Camembert, in the department of Orne, by the great-grandmother of M. Paynel, and its fabrication has ever been maintained in his family. On three or four of his farms the milk, as soon as drawn, is brought carefully in a spring-wagon to the principal farm. The morning and noon milk is immediately subjected to the action of rennet and heated in proportion to the external temperature. Four or five liters of hot milk are generally sufficient to give 100 liters the required temperature. The evening milk is kept during the night and mingled with the milk of the following day. After about four hours the curd is placed by spoonfuls in the molds, an operation which is renewed about five times in seven or eight hours for the same cheese. As the milk drips through the molds, causing the surface to sink, the vacuum must be filled up at regular intervals by fresh supplies of curdled milk. The next day the cheese is turned over in the mold, and on the following day removed from it and salted. On the fifth day it is transported to the drying-room and placed on the hurdles or sieves before mentioned. They are kept here from twelve to thirty-six days, according to the dryness or humidity of the atmosphere, and are then deposited in the cellar for six to twenty days in addition. The Camembert cheese thus requires from twenty-five to sixty days, according to temperature, for its completion. The cheeses are then packed in rouleaux of six, in paper marked with the regular brand, and then surrounded by straw.

GERMAN AGRICULTURE.—In Germany, and especially in Eastern Prussia, the agricultural interest is suffering from the overproduction of alcohol and its consequent depreciation in the market. At the close of 1874 there was a surplus of 13,208,900 gallons, which continually augmented during 1875. To maintain this branch of production, the cultivation of potatoes during a few years past has been greatly enlarged, at the expense of grain-culture. This was followed by an enhanced import and a diminished export of rye, barley, oats, &c. Brandy distillation increased throughout the country, exceeding the wants of the community, while the foreign export trade afforded but a narrow margin of profit on account of high freight-charges, custom and excise duties, and foreign competition. A reaction has taken place in the minds of the German farmers in favor of grain production. The import of rye exceeded the export 7,000,000 quintals in 1872, 8,000,000 in 1873, and 12,000,000 in 1874. The excess of barley imports rose in three years from 1,700,000 quintals to 2,700,000; that of oats, from 670,000 to 2,900,000. A quintal (new measure) is equal to 220½ pounds.

HORSE-BREEDING IN GERMANY.—The late embargo upon the exportation of horses by the Prussian government has been rescinded under the growing pressure of complaints from horse-breeders, especially those of Hanover, Brandenburg, Saxony, and Silesia. In these provinces the business has been stimulated to such an extent that the home-market of Germany is not sufficient to absorb the annual production. Depots of stallions have been multiplied of later years, and also numerous depots for the purchase of army-horses have been established, in order to secure the choice of animals suited to the different arms of the service. These have generally been purchased at the age of three or four years, thus enabling the breeders to realize more speedily the returns for their care and labor in raising. The general demand is for horses of greater age.

This system has exercised a powerful influence upon the character of army-horses. At the close of 1873 the number of horses in the different provinces of the kingdom of Prussia was as follows: Prussia proper, 531,831; Silesia, 256,467; Brandenburg, 235,987; Posen, 194,000; Pomerania, 172,181; Saxony, 164,311; Rhine provinces, 134,256; Westphalia, 115,674; Hanover, 186,715; Schleswig-Holstein, 134,144; Hesse-Nassau, 65,225; total, 2,187,791.

In Prussia proper the number of horses is about 17 per cent. of the number of people; in Silesia, about 7½ per cent.; Brandenburg, nearly 9 per cent.; Posen, 12⅓ per cent.; Pomerania, 12 per cent.; Saxony, 8 per cent.; Rhine provinces, 4 per cent.; Westphalia, 6 per cent.; Hanover, 9 per cent.; Schleswig-Holstein, 13½ per cent.; Hesse-Nassau, 4½ per cent.; the whole kingdom, 9 per cent.

HUNGARIAN HORSES.—The Hungarians have ever been a nation of cavaliers, and the horse has enjoyed a grand rôle in their history. The brilliant success of the Magyars in beating back the invading hordes of Turks and Tartars has been especially due to their superiority in cavalry, and this is attributable to the admirable quality of their horses as well as to the high spirit of the riders. The Hungarian horse was originally of moderate stature, averaging a little less than fifteen hands high; head elegant and small, neck strong and not too long, good chest and back, hind-quarters sloping, legs excellent and terminated by very tough hoofs; color various. In the bracing climate and among the nutritious pastures of Hungary, the horse developed a hardy constitution, great power of endurance, with wonderful swiftness of movement. But subsequently, the original Scythian breed of Hungarian horses gave place in the great studs to imported animals, and is found to-day only among the peasantry of Hungary and among the Szekely of the Eastern Carpathians. Horses of large stature, Spanish, Roman, and Neapolitan, were sought, which, in some parts of the country, have resulted in a valuable breed. Subsequently, Danish horses were imported, and the large German horse was naturalized. The English horse has also been introduced, and has been growing in size, strength, and capacity. These different importations have resulted in great variations of breed and quality among Hungarian horses.

The total number of horses in Hungary is stated at 2,158,000, and the population at 15,417,000, making the number of horses 14 for every 100 people. This fact indicates the extent to which horse-breeding has been carried in Hungary. This branch of production has met with considerable obstruction in different ages; but, since the advent of Maria Theresa to the imperial throne of Austria, government has by subsidies and otherwise, assisted horse-breeders. Encouragements were given to the organization of studs, and prizes for excellence in horses were given. This governmental assistance has been extended and systematized. Studs have been established by authority and distributed throughout the country. There are five stations in Alba Regia, with 570 stallions; six stations in Nagy Körös, with 870 stallions; four stations in Szepsi St. György, with 238 stallions; two stations in Varasd, with 122 stallions; total, sixteen stations, with 1,800 stallions.

A central commission, constituted of experts of the country, to secure the best and most productive system of horse-raising, meets at set periods every year. The statistics of each year's production are furnished by the minister of agriculture. This body corresponds with local commissions in each county, chosen by the horse-raisers and experts. These local committees are to communicate the actual condition of the busi-

ness to the central commission, and to diffuse among the agriculturists the latest information in regard to practical principles of horse-raising. They are also to award the prizes voted by the legislature, and to supervise the annual fairs at which horses are exhibited, and to regulate the service of the stallions, which during the breeding season are distributed at 525 local stations, and cover an average annually of 63,000 mares. The charges of service range from 2½ to 37½ francs for each mare.

THE EUCALYPTUS IN ALGERIA.—After successful plantings of this tree at Fondouk, Roniba, and Hussein-dey, in Algeria, its culture was commenced on a large scale in 1867. The first plantings have already produced wood that can be utilized in carpentry and wheelwrighting. Planks over 40 feet long have been cut, showing that after eight years of growth this tree will produce timber of great value and utility. A proprietor, on his own account and for other parties, has, since 1867, planted about 200,000 trees of this variety, and has already sold 50,000. The hygienic qualities of this tree, claimed by writers in other countries, do not appear to have been realized in Algeria. The plantations have had a remarkably thrifty growth, yet no diminution in the cases of malarial fever are noted. The wood is harder than that of any other species growing in that region, and its production promises great profit to the growers, meeting, as it does, a specific necessity of the people.

PRODUCTS OF SOUTH AUSTRALIA.—The lands of this colony are divided into three classes: First, the plains, mostly arable; second, the hill country, requiring more or less clearing, but of good soil; third, scrub lands, which will not pay for clearing. In Yorkes Peninsula and at other points is a class of table-lands, sprinkled with sheaoak and other small timber, which produces good wheat-crops. English and semi-tropical fruits here grow in great perfection.

About ninety thousand square miles are occupied by pastoral industry. The exports of wool during 1874–'75 were valued at £1,994,190, an increase of over 100 per cent. in ten years. These lands are mostly held under lease from the government at from 2*s.* 6*d.* to £1 per square mile, and an annual assessment of 2*d.* to 6*d.* per head for sheep and 1*s.* to 3*s.* per head for cattle. The pastoral lessees, called squatters, have ever been the pioneers of settled industry. Some of the earlier of these adventurers, who twenty years ago went out into the bush with a few horses, cattle, and sheep, are now immensely wealthy, while most of this class of enterprising settlers are in comfortable circumstances. In 1864 there were in the colony 4,106,230 sheep, which, in consequence of a severe drought in 1865, were reduced to three and three-quarters millions. In 1874 they numbered to 6,120,211 sheep. The increase in cattle has not been so great, and considerable numbers of fat stock are annually imported. The census of 1874 showed 93,122 horses and 185,342 cattle. The sheep and cattle are mostly reared on native grasses. Of late years the productiveness of the runs has greatly increased by fencing. About 18,000,000 acres have been inclosed, 2,000,000 during the last year. Race-horses have been produced to some extent, as the climate and other conditions are well calculated to produce sound animals of high nerve and spirit. Blooded stock has been introduced on a considerable scale.

The farmer follows close upon the heels of the shepherd squatter. The leases to the latter are subject at any time to revocation in order to be sold to regular farmers. Personal residence is not required, but no one is allowed to purchase over 640 acres; the land

must be occupied, if not by the purchaser himself, by a hired hand, who is to cultivate at least 20 per cent. of the land. After survey, the land is held for selection at £1 per acre. If there be more than one applicant for land, it is sold to the highest bidder. Installments of 10 per cent. of the purchase-money are required in cash, and at the end of three years; at the end of six years one-half the remainder of the purchase-money must be paid, and the remainder may continue on interest at 4 per cent. Improvements to the extent of 5*s.* per acre must be made before the close of the second year of occupation, and to the extent of 10*s.* per acre before the close of the fourth year. These improvements consist of dwelling and farm-buildings, wells, water-tanks, fencing, draining, clearing, &c.

The method of wheat-growing is generally rude and unscientific. The ground is scratched to three or four inches deep, and the seed sown broadcast. If the seeding be not too late, the yield will be from 10 to 20 bushels per acre. Older lands show signs of exhaustion from continual cropping, without manure, from ten to thirty years. A year or two of fallow and stock-pasture partly restores the fertility. Red rust, locusts, hot winds, and a peculiar wheat malady, known as "take all," from its effective destruction of large patches of the crop, are the main difficulties in the way of the wheat-farmer. Of late years many small farmers have sold out in order to appropriate new land on the frontiers of the wilderness. The new line of settlements has reached from five to seventy miles inland from the coast, and as far as one hundred and sixty miles from Adelaide. The amount of land under cultivation has, in five years, increased from 959,000 acres to 1,330,484 acres, with large additions every year. Less than a fourth of these lands are under tillage, which is mostly directed to wheat-production. The crops gathered in December, 1874, from 839,638 acres, amounted to 9,862,000 bushels, or 11¾ bushels per acre. This shows an increase upon the previous year of 3,683,877, while the acreage increased only 54,000. Hay occupied 160,931 acres; barley, 13,724 acres; potatoes, 4,582 acres; permanent grasses, 27,076 acres; gardens, vineyards, and orchards, 7,334 acres. Flax was also found to do well in some localities. During the last ten years wheat-production has doubled, while population has increased only 30 per cent. Labor-saving machinery is used on an increasing scale, especially harvesters and reapers. South Australian wheat is of high quality, as is shown not only by prizes at late European expositions, but also by the fact that Victoria and New Zealand, though producing a surplus for export, import South Australian wheat to mix with and give character to their own product.

The rich chocolate loam of the hill-sides produces excellent grapes, and most of the best varieties of France and Spain have been introduced. The vineyards already cover 5,051 acres, yielding at the last vintage 648,186 gallons of wine, most of which is consumed in the colony. Some brands secured prizes at the London, Paris, and Vienna expositions. The Sultana and Muscatel yield several tons of raisins per annum. Orange-culture has been successfully inaugurated. Fruits and melons of delicious quality have been grown. The olive thrives on this soil, and, for several years, a thriving trade in oil has been prosecuted. It commands 10*s.* per gallon, and is regarded as fully equal to the imported article. Mulberry-trees are being extensively planted under bounties from government to encourage silk-production, for which the climate is supposed to be well fitted. Sugar-beet and other roots have been introduced. Tobacco thrives, though with but little attention hitherto.

A vast region in the northern part of the colony awaits occupation, and presents characters of soil and climate very eligible for future settlement. Gold-mining has been prosecuted on a small scale, but not with very encouraging results. Silver-mining has paid better. Iron-ores of great richness and purity are found in some parts of the colony, and lately a few tons of pig-iron have been produced. Several branches of general manufacture have been started on a large scale. Since 1838 the total imports of the colony amounted to $277,199,170 and the exports to $262,965,430.

QUEENSLAND AT THE CENTENNIAL.—This Australian colony, which has had heretofore the enterprise to be represented in intercolonial exhibitions at Sydney and Melbourne, and in international, at London and Vienna, has taken measures to participate in our Centennial. The government has appropriated for this purpose $15,000, and appointed two commissioners—the one to make known what there is in Queensland which may benefit the United States, and the other to learn what there is in the United States which may benefit Queensland. The former is Mr. Daintree, general agent of the colony in England. In carrying out the general idea of showing what Queensland has produced, and what more it is capable of producing, he is expected to take advantage of a collection of its products now in London, and to direct special effort toward exhibiting such raw materials as the colony produces for export. Among these are specified wool, sugar, pure spirit, timber, tin, copper, coal, and the precious metals. The commissioner for gaining information is Mr. Angus Mackay, a leading editor in the colony. His mission is not limited to the exhibition at Philadelphia, but contemplates researches in the States and Territories, with a view to learn the most successful measures for the settlement and development of new territory, and the most advanced processes and machinery (as seen, not on exhibition, but in practical operation) in agriculture, mining, manufactures, and the mechanic arts.

MARKET-PRICES OF FARM-PRODUCTS FOR FEBRUARY, MARCH, AND APRIL, 1876.

The following quotations represent, as nearly as practicable, the state of the market at the opening of each month.

Articles.	February.	March.	April.
NEW YORK.			
Flour, superfine, State and western....per bbl..	$4 25 to $4 60	$4 25 to $4 60	$4 50 to $4 75
extra State.....do....	4 85 to 5 90	4 90 to 5 60	5 10 to 5 65
extra to choice western.....do....	4 85 to 9 00	4 90 to 9 00	5 10 to 9 00
common to choice southern shipping extras.....per bbl..	4 80 to 6 30	4 80 to 6 25	5 25 to 6 45
common to choice southern family brands, per barrel.....	6 40 to 8 75	6 30 to 8 75	6 50 to 8 75
Wheat, No. 1 spring.....per bush..	1 31 to 1 38	1 33 to 1 37	1 34 to 1 39
No. 2 spring.....do ...	1 19 to 1 21	1 24 to 1 27	1 22 to 1 29
winter, red, western.....do....	1 18 to 1 47	1 22 to 1 47	1 15 to 1 47
winter, amber, western.....do....	1 18 to 1 47	1 22 to 1 47	1 15 to 1 47
winter, white, western .....do....	1 35 to 1 55	1 35 to 1 50	1 36 to 1 50
Corn .....do ...	57½ to 65½	60 to 70	65 to 68
Oats .....do....	44 to 51½	45½ to 53	42 to 50
Rye.....do....	86 to 89	82 to 88	86 to 97
Barley .....do....	84 to 1 18	85 to 1 25	— — to 1 08
Hay, baled, first quality for retail .....per ton..	21 00 to 23 00	18 00 to 21 00	18 00 to 21 00
second quality for shipping...do....	17 00 to — —	15 00 to 16 00	15 00 to 16 00

Market-prices of farm-products—Continued.

Articles.	February.	March.	April.
NEW YORK—Continued.			
Beef, mess.....per bbl..	$10 50 to $11 50	$10 50 to $12 00	$12 50 to $13 00
extra mess.....do....	12 00 to 12 50	12 50 to 13 50	12 50 to 13 50
Pork, mess.....do....	21 25 to — —	22 65 to 22 80	23 20 to 23 25
extra mess.....do....	16 00 to — —	18 50 to — —	— — to — —
prime mess.....do....	19 75 to 22 00	20 50 to 21 50	— — to 21 50
Lard.....per lb..	12⅛ to 13¼	13¼ to 13½	14½ to 14⅝
Butter, western.....do....	16 to 34	16 to 36	17 to 35
State dairy.....do....	26 to 36	24 to 38	32 to 43
Cheese, State factory.....do....	07 to 13⅓	07 to 14	07 to 13¼
western factory.....do....	06 to 12⅓	06 to 13	07 to 13
Sugar, fair to prime refining.....do....	C7⅞ to 08½	07⅞ to 07⅞	07⅛ to 07⅞
Cotton, ordinary to good ordinary.....do....	09½ to 11½	09 to 10⅜	9⅜ to 11½
low middling to good middling...do....	12¼ to 13¾	11¾ to 13⅜	12½ to 14½
Tobacco, lugs.....do....	06 to 09	05 to 09½	04½ to 07
leaf.....do....	08¼ to 12	08 to 12	07 to 10½
Wool, American XXX and picklock.....do....	50 to 54	50 to 54	45 to 55
American X and XX.....do....	43 to 48	43 to 48	38 to 46
American, combing.....do....	55 to 65	55 to 65	48 to 57
pulled.....do....	27 to 44	27 to 44	25 to 42
California spring clip.....do....	18 to 32	18 to 32	17 to 30
California fall clip.....do....	15 to 21	15 to 21	13 to 23
BOSTON.			
Flour, western superfine spring.....per bbl..	4 00 to 4 50	4 00 to 4 25	4 00 to 4 50
common spring extras.....do....	4 75 to 5 50	4 75 to 5 25	5 00 to 5 50
good to fancy northwestern spring..do....	5 00 to 9 25	5 00 to 9 25	5 50 to 9 50
good to fancy western winter.....do....	6 00 to 9 00	6 00 to 9 00	6 00 to 9 00
southern family.....do....	6 50 to 9 00	6 50 to 9 00	6 50 to 9 00
Wheat.....per bush..	1 00 to 1 50	1 06 to 1 55	1 05 to 1 55
Corn.....do....	64½ to 66½	65 to 68	72 to 75
Oats.....do....	43 to 57	43 to 55	44 to 56
Rye.....do....	95 to 1 00	95 to 1 00	90 to 95
Barley.....do....	90 to 1 30	85 to 1 20	85 to 1 20
Hay, eastern and northern.....per ton..	20 00 to 21 00	13 00 to 20 00	15 00 to 21 00
Beef, mess.....per bbl..	12 00 to 12 50	12 00 to 12 50	12 00 to 12 50
extra mess.....do....	13 00 to 13 50	13 00 to 13 50	13 00 to 13 50
family.....do....	16 50 to 17 00	16 50 to 17 00	16 50 to 17 00
Pork, prime.....do....	15 00 to 16 00	18 00 to 18 50	19 00 to 20 00
mess.....do....	21 50 to 22 00	23 00 to 23 50	23 75 to 24 00
Lard.....per lb..	13¼ to 14	13⅓ to 14½	14⅜ to 15
Butter, New York and Vermont.....do....	20 to 33	20 to 34	30 to 38
western.....do....	18 to 33	18 to 29	22 to 30
Cheese, New York and Vermont factory..do....	10 to 13	10 to 13½	10 to 14
western factory.....do....	— — to — —	9 to 13½	9 to 13⅔
Sugar, fair to good refining.....do....	8 to 12½	7⅞ to 7⅞	7⅛ to 7⅞
Cotton, ordinary to good ordinary.....do....	9½ to 11½	8¾ to 10½	9½ to 11½
low middling to good middling ...do....	12⅜ to 14	12 to 13½	12½ to 14½
Wool, Ohio and Pennsylvania.....do....	45 to 50	38 to 52½	42 to 47
Michigan.....do....	42 to 45	42 to 46	40 to 41
other western.....do....	42 to — —	— — to — —	— — to — —
pulled.....do....	35 to 55	35 to 47	30 to 48
combing fleece.....do....	52 to 60	42 to 65	— — to — —
California.....do....	17 to 34	14 to 33	14 to 32
PHILADELPHIA.			
Flour, superfine.....per bbl..	4 00 to 4 25	3 50 to 4 00	3 50 to 4 00
Pennsylvania, extra to choice.....do....	4 25 to 6 50	4 25 to 6 50	4 25 to 6 75
western, extra to choice.....do....	4 25 to 6 75	4 25 to 6 60	5 75 to 8 00
Wheat, white.....per bush..	1 45 to 1 55	1 45 to 1 55	1 50 to 1 58
amber.....do....	1 41 to 1 42	1 41 to 1 43½	— — to 1 53
red.....do....	1 20 to 1 40	1 20 to 1 40	95 to 1 52
Rye.....do....	86 to 88	83 to 84	81 to 82
Barley.....do....	75 to 1 35	75 to 1 30	75 to 1 25
Corn.....do....	52 to 60	54 to 61	60 to 65⅓
Oats.....do....	40 to 48	38 to 48	43 to 50
Hay, baled, prime.....per ton..	21 00 to 21 50	21 00 to 21 50	21 00 to 21 50
common to fair shipping.....do....	19 00 to 20 00	19 00 to 20 00	19 00 to 20 00
Beef, western mess.....per bbl..	7 00 to 9 00	7 00 to 9 00	9 00 to 10 00
extra mess.....do....	8 00 to 9 00	8 00 to 9 00	11 50 to 12 50
Warthman's city family.....do....	16 00 to — —	16 00 to — —	16 00 to — —
Pork, mess.....do....	21 25 to 21 50	22 50 to 23 00	23 50 to 23 75
prime mess.....do....	20 00 to — —	21 00 to — —	21 00 to — —
prime.....do....	17 00 to 18 00	18 00 to 18 50	18 75 to 19 00
Lard.....per lb..	12 to 13	13 to 13⅜	14¼ to 15
Butter, choice Middle States.....do....	28 to 38	27 to 38	36 to 44
choice western.....do....	25 to 31	25 to 31	28 to 43
Cheese, New York factory.....do....	11½ to 13¾	11½ to 14	5 to 14
Ohio factory.....do....	— — to 13	— — to 13	4 to 13¼

Market-prices of farm-products—Continued.

Articles.	February.	March.	April.
PHILADELPHIA—Continued.			
Sugar, fair to good refining ..... per lb..	$0 07¾ to $0 08	$0 07½ to $0 07¾	$0 07½ to $0 07
Cotton, ordinary to good ordinary.....do....	9½ to 11⅜	9 to 10⅞	9⅜ to 11⅛
low middling to good middling ...do....	12½ to 13¼	12 to 12⅝	12¼ to 14
Wool, Ohio and Pennsylvania, X to XXX..do....	47 to 50	48 to 52½	45 to 48
other western.....do....	24 to 42	40 to 45	40 to 45
tub-washed.....do....	40 to 54	40 to 52½	40 to 52
pulled.....do....	42 to 64	38 to 64	26 to 64
combing .....do....	44 to 62	— — to 66	42 to 65
BALTIMORE.			
Flour, superfine .....per bbl..	3 75 to 4 50	3 75 to 4 50	3 75 to 4 25
extra.....do....	4 75 to 6 75	4 75 to 7 00	4 75 to 7 50
family .....do....	5 75 to 8 75	5 25 to 8 75	5 75 to 9 00
Wheat, red .....per bush..	1 18 to 1 45	1 15 to 1 45	1 45 to 1 50
amber.....do....	— — to 1 55	— — to 1 55	1 60 to 1 62
white .....do....	— — to 1 45	— — to 1 45	1 40 to 1 60
Rye.....do....	75 to 80	78 to 82	80 to 83
Oats .....do....	43 to 50	40 to 47	40 to 49
Corn .....do....	55 to 62	53 to 59	59 to 64
Hay, Maryland and Pennsylvania ....per ton..	18 00 to 24 00	18 00 to 24 00	18 00 to 24 00
western .....do....	18 00 to 20 00	— — to — —	17 00 to 19 00
Pork, mess .....per bbl..	21 25 to 21 50	22 75 to 23 00	23 00 to 23 50
extra prime .....do....	— — to — —	17 25 to — —	18 00 to — —
Lard .....per lb..	12¾ to 13½	13½ to 14	14¼ to 14
Butter, western.....do....	17 to 26	18 to 26	18 to 41½
eastern .....do....	18 to 33	17 to 35	36 to 43
Cheese, western factory.....do....	11 to 12½	11 to 13½	12½ to 14
eastern factory .....do....	12 to 13⅜	12½ to 14½	11½ to 13½
Sugar, fair to good refining .....do....	7⅞ to 8⅛	7¾ to 7⅞	7¾ to 7⅞
New Orleans grocery grades .....do....	7½ to 8½	7¾ to 8¼	— to —
Tobacco, lugs .....do....	6½ to 9	6½ to 9	6½ to 11
leaf, common to medium .....do....	9 to 11	9 to 11	9 to 14
Cotton, ordinary to good ordinary .....do....	8½ to 10½	8½ to 10½	9½ to 11½
low middling to good middling ...do....	12 to 13	11½ to 12½	12½ to 13½
CINCINNATI.			
Flour, superfine .....per bbl..	3 50 to 3 85	3 50 to 3 75	3 50 to 3 90
extra.....do....	4 35 to 4 75	4 25 to 4 60	4 00 to 4 60
family and fancy.....do....	5 15 to 8 00	5 00 to 8 00	4 90 to 7 50
Wheat, winter, red.....per bush..	1 15 to 1 37	1 12 to 1 30	1 15 to 1 35
hill, (amber) .....do....	— — to — —	1 25 to 1 35	— — to 1 38
white.....do....	1 40 to 1 45	1 40 to 1 45	1 38 to 1 48
Rye.....do....	65 to 80	70 to 78	73 to —
Barley .....do....	50 to 1 15	40 to 1 15	55 to 1 23
Corn.....do....	39 to 44	44 to 46	49 to 51
Oats .....do....	36 to 43	30 to 40	33 to 43
Hay, baled, No. 1 .....per ton..	15 00 to 17 00	15 00 to 18 00	15 00 to 18 00
lower grades .....do....	8 00 to 14 00	8 00 to 14 00	6 00 to 10 00
Pork, mess .....per bbl..	20 50 to — —	22 25 to 22 45	23 00 to — —
Lard .....per lb..	12⅜ to 13½	12⅜ to 13⅜	13⅜ to 14
Butter, choice .....do....	26 to 30	27 to 30	33 to 35
prime.....do....	22 to 25	25 to 27	— to 30
Cheese, prime to choice .....do....	12 to 13	12 to 13	13 to 13½
Sugar, New Orleans, fair to good .....do....	7⅛ to 8⅜	7¼ to 8¼	7¾ to 8⅛
prime.....do....	8¼ to 9	8¾ to 9	8¼ to 9
Tobacco, lugs .....Per lb..	15 to 20	— to —	— to —
leaf .....do....	28 to 30	— to —	— to —
Cotton, ordinary to good ordinary .....do....	8⅜ to 10	8 to 9¼	9 to 10¼
low middling to good middling....do....	11⅜ to 13	11 to 12⅜	11¾ to 13¼
Wool, fleece, common to fine.....do....	38 to 43	38 to 43	38 to 43
tub-washed.....do....	43 to 48	43 to 48	43 to 48
unwashed, clothing.....do....	25 to 30	25 to 30	28 to 30
combing .....do....	34 to 38	34 to 38	34 to 38
pulled .....do....	31 to 37	31 to 37	35 to 37
CHICAGO.			
Flour, choice winter extras ..... per bbl..	6 50 to 7 50	6 50 to 7 50	6 50 to 7 50
common to good winter extras.....do....	4 75 to 5 50	4 75 to 5 50	4 75 to 5 50
spring extras, common to good .....do....	4 00 to 4 75	4 00 to 4 75	4 00 to 4 90
choice spring extras.....do....	5 00 to 5 25	5 00 to 5 25	5 00 to 5 25
patent spring .....do....	6 50 to 7 25	6 50 to 7 25	6 50 to 7 25
spring superfines.....do....	3 00 to 3 50	3 00 to 3 50	3 00 to 3 50
Wheat, No. 1 spring .....per bush..	Nominal	Nominal	Nominal.
No. 2 spring.....do....	97⅞ to 98⅜	97½ to 98	10½ to 10¼
No. 3 spring.....do....	76 to 77¼	80 to 82	88¼ to 90¼
Rye, No. 2.....do....	67 to 67½	61 to 62	64 to 65

Market-prices of farm-products—Continued.

Articles.	February.	March.	April.
CHICAGO—Continued.			
Barley, No. 2 ..... per bush..	$0 75 to $0 76	$0 51½ to $0 53	$0 60 to — —
Corn, No. 2 ..... do....	40⅛ to 40½	41½ to 42	46 to $0 47½
Oats, No. 2 ..... do....	30⅜ to 30⅝	31⅜ to 31¼	33⅜ to 33½
Hay, timothy ..... per ton..	11 50 to 14 00	10 00 to 12 00	11 50 to 13 00
prairie ..... do....	7 00 to 9 00	6 00 to 9 00	8 00 to 11 50
Beef, mess ..... per bbl..	9 50 to 10 00	8 50 to 9 00	10 50 to 11 00
extra mess ..... do....	10 50 to 11 00	9 50 to 10 00	11 50 to 12 00
Pork, mess ..... do....	19 50 to — —	21 65 to 21 67½	22 35 to — —
prime mess ..... do....	17 75 to — —	19 00 to — —	22 00 to — —
extra prime ..... do....	14 50 to 14 75	16 00 to — —	17 00 to — —
Lard ..... per lb..	12 to 12⅛	12¼ to 13	14 to — —
Butter, choice to fancy ..... do....	26 to 32	27 to 33	35 to 40
medium to good ..... do....	18 to 23	20 to 34	25 to 30
Cheese, good to choice factory ..... do....	12½ to 13½	12½ to 13½	12 to 13
Sugar, New Orleans, common to prime ... do....	7 to 8¾	7 to 8¼	7 to 8¼
Wool, tub-washed ..... do....	44 to 53	44 to 53	44 to 53
fleece-washed ..... do....	39 to 43	39 to 43	40 to 44
unwashed ..... do....	25 to 33	25 to 33	25 to 33
pulled ..... do....	33 to 36	33 to 36	30 to 40
SAINT LOUIS.			
Flour, winter, common to choice ..... per bbl..	4 00 to 7 50	4 00 to 7 50	3 50 to 7 50
spring ..... do....	— — to — —	— — to — —	— — to — —
Wheat, white winter ..... per bush..	1 00 to 1 30	1 00 to 1 30	1 00 to 1 35
red winter ..... do....	1 03 to 1 60	1 00 to 1 55	1 03 to 1 52
spring ..... do....	— — to — —	— — to — —	— — to — —
Corn ..... do....	35 to 41	37 to 43	41 to 46
Rye ..... do....	60 to 68	50 to 70	50 to 70
Barley, fair to choice ..... do....	80 to 1 30	30 to 1 25	70 to 1 15
Oats ..... do....	32 to 39	32 to 38	31 to 37
Hay, timothy ..... per ton..	14 50 to 17 50	14 50 to 17 50	14 50 to 18 50
prairie ..... do....	7 00 to 10 00	7 00 to 10 00	7 00 to 10 00
Beef, mess ..... per bbl..	14 00 to 14 50	14 00 to 14 50	14 00 to 14 50
Pork, mess ..... do....	19 50 to 20 00	22 25 to 22 50	23 00 to 23 50
Lard ..... per lb..	11½ to 13	13¼ to 14	11½ to 13
Butter, prime to choice dairy ..... do....	25 to 30	25 to 30	30 to 35
country-packed .. do....	16 to 18	18 to 22	25 to 30
Cheese, Ohio factory ..... do....	12½ to 13½	12½ to 13½	12½ to 13½
New York factory ..... do....	13 to 14	13 to 14	13 to 14
Wool, tub-washed ..... do....	44 to 46	44 to 46	47 to 48½
fleece-washed ..... do....	38 to 42	38 to 42	38 to 42
unwashed ..... do....	30 to 34	30 to 34	30 to 34
NEW ORLEANS.			
Flour, superfine ..... per bbl..	3 75 to — —	4 00 to — —	4 00 to — —
extra ..... do....	4 00 to 5 25	4 25 to 5 50	4 25 to 5 50
choice to fancy ..... do....	5 50 to 7 25	5 75 to 7 75	5 75 to 7 50
Corn, white and yellow ..... per bush..	52 to 53	53 to 58	55 to 60
Oats ..... do....	45 to 49	40 to 45	42 to 45
Hay, choice ..... per ton..	22 00 to — —	25 00 to — —	20 00 to — —
prairie ..... do....	16 00 to 18 00	17 00 to 18 00	14 50 to 16 00
Beef, Kansas ..... per bbl..	12 00 to 12 50	12 00 to — —	— — to — —
Texas ..... do....	— — to — —	12 00 to — —	12 00 to 12 50
western ..... do ..	15 00 to 17 00	15 00 to 16 00	12 00 to 16 00
Fulton market ..... per half-bbl..	11 50 to — —	11 50 to — —	11 75 to 12 00
Pork, mess ..... per bbl..	21 50 to 22 00	23 00 to 23 75	24 00 to 24 50
Lard ..... per lb..	12¼ to 14	13½ to 14½	14¼ to 15¼
Butter, choice Goshen ..... do....	33 to 35	33 to 35	40 to 42
choice western ..... do....	25 to 27	25 to 28	30 to — —
Cheese, choice western factory ..... do....	12½ to 13	13 to — —	12½ to — —
New York cream ..... do....	14½ to 15	14½ to 15	14 to — —
Sugar, fair to fully fair ..... do....	6⅝ to 7⅛	6⅝ to 7⅛	7¼ to 7¾
prime to strictly prime ..... do....	7¼ to 7½	7¼ to 7⅝	7¾ to 7⅞
clarified, white, and yellow ..... do....	8½ to 9⅝	8⅝ to 9⅞	9 to 10
Cotton, ordinary to good ordinary ..... do....	8½ to 10	8 to 9⅝	9 to 10¾
low middling to good middling ... do....	11 to 13½	10¾ to 13½	11⅝ to 14¼
Tobacco, lugs ..... do....	6 to 8	5½ to 7½	5½ to 7
low leaf to medium leaf ..... do....	9 to 14	8 to 10½	8 to 10½
SAN FRANCISCO.			
Flour, superfine ..... per bbl..	4 50 to 5 00	4 50 to 5 00	4 25 to 5 00
extra ..... do....	5 25 to 5 50	5 25 to 5 50	5 25 to 5 50
family and fancy ..... do....	5 75 to 6 00	5 75 to 6 00	5 75 to 6 00
Wheat, California ..... per cental..	1 75 to 1 95	1 75 to 1 95	1 75 to 2 00
Oregon ..... do....	1 75 to 1 95	1 75 to 1 90	1 75 to 2 00
Barley ..... do....	1 20 to 1 35	1 20 to 1 35	1 15 to 1 35

Market-prices of farm products—Continued.

Articles.	February.	March.	April.
SAN FRANCISCO—Continued.			
Oats.....per cental..	$2 05 to $2 35	$2 05 to $2 25	$2 10 to $2 50
Corn.....do....	1 25 to 1 35	1 15 to 1 25	1 15 to 1 25
Hay, state.....do....	13 00 to 18 50	12 00 to 18 00	14 00 to 18 50
Pork, mess.....per bbl..	22 00 to 23 00	22 00 to 23 00	22 00 to 23 00
prime mess.....do....	17 50 to 18 00	17 50 to 18 00	17 50 to 18 00
Beef, mess.....do....	8 50 to 10 00	8 50 to 10 00	8 50 to 10 00
family mess.....per half-bbl..	8 00 to 10 00	8 00 to 10 00	8 00 to 10 00
Lard.....per lb..	13 to 15	13 to 15	13½ to 15
Butter, overland.....do....	18 to 25	18 to 25	16 to 18
California.....do....	25 to 30	25 to 30	25 to 30
Oregon.....do....	20 to 22½	20 to 22½	20 to 22½
Cheese.....do....	12½ to 15	12½ to 15	12½ to 15
Wool, native.....do....	10 to 15	10 to 15	10 to 15
California.....do....	15 to 19	15 to 19	15 to 18
Oregon.....do....	18 to 20	18 to 20	16 to 18

LIVE-STOCK MARKETS.

NEW YORK.			
Cattle, extra beeves.....per cental..	— — to 11 50	11 50 to 12 75	11 75 to 12 00
good to prime.....do....	— — to 11 00	— — to 11 50	— — to 11 50
common to fair.....do....	8 00 to 10 00	9 00 to — —	9 00 to — —
Texans.....do....	— — to — —	— — to — —	— — to — —
milch-cows.....per head..	50 00 to 85 00	— — to — —	— — to — —
veal-calves.....per cental..	7 00 to 10 50	7 00 to 10 50	— — to — —
Sheep.....do....	5 50 to 7 37	5 35 to 7 37	6 75 to 7 87
Swine.....do....	8 50 to 10 50	10 12½ to 10 50	10 25 to 10 75
PHILADELPHIA.			
Cattle, prime beeves.....per cental..	7 12½ to 7 50	7 12½ to 7 25	7 00 to 7 75
fair to good.....do....	5 50 to 7 00	5 50 to 7 00	5 75 to 6 75
common.....do....	4 00 to 5 25	4 00 to 5 25	4 50 to 5 50
Sheep.....do....	5 75 to 7 00	4 50 to 7 00	5 00 to 7 75
Swine, corn-fed.....do....	10 00 to 11 50	11 50 to 12 50	12 50 to 13 75
BALTIMORE.			
Cattle, best beeves.....per cental..	5 87 to 6 50	5 75 to 6 37½	6 12 to 6 50
first quality.....do....	4 75 to 5 75	4 75 to 5 75	5 12 to 6 12
medium or good quality.....do....	3 75 to 4 75	4 25 to 4 75	4 50 to 5 12
ordinary.....do....	3 00 to 3 50	3 00 to 4 00	3 50 to 4 00
general average of the market....do....	4 50 to — —	4 87½ to — —	5 37 to — —
most of the sales.....do....	4 00 to 5 25	4 37½ to 5 25	4 75 to 5 87
milch-cows.....do....	— — to — —	— — to — —	— — to — —
Sheep.....do....	4 50 to 6 50	4 50 to 7 50	5 00 to 7 50
Swine.....do....	9 50 to 10 50	10 75 to 12 00	10 50 to 12 00
CINCINNATI.			
Cattle, good to prime, butchers' steers, per cental.....	5 00 to 5 50	4 75 to 5 00	4 75 to 5 25
fair to medium.....per cental..	4 00 to 4 75	3 50 to 4 50	3 75 to 4 50
common.....do....	2 75 to 3 75	2 75 to 3 25	3 00 to 3 50
milch-cows.....do....	— — to — —	— — to — —	— — to — —
veal-calves.....do....	— — to — —	— — to — —	— — to — —
Sheep.....do....	3 25 to 6 00	3 75 to 6 00	4 00 to 6 00
Swine.....do....	7 40 to 8 35	7 40 to 8 35	7 25 to 8 60
CHICAGO.			
Cattle, extra graded steers.....per cental..	— — to 6 50	— — to — —	— — to — —
choice beeves.....do....	5 00 to 5 50	5 00 to 5 50	5 00 to 5 50
good beeves.....do....	4 35 to 4 75	4 00 to 4 75	4 40 to 4 80
medium.....do....	4 12½ to 4 25	3 50 to 3 75	4 20 to 4 40
inferior natives.....do....	2 80 to 4 00	3 00 to 3 50	2 50 to 3 50
Texan.....do....	— — to — —	— — to — —	— — to — —
Sheep.....do....	4 00 to 5 50	4 00 to 6 00	4 50 to 7 75
Swine.....do....	7 25 to 7 80	7 50 to 8 30	8 00 to 8 75